THE

HISTORY

OF THE

ARTS and SCIENCES

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ANTIENTS,

Under the following HEADS:
In THREE VOLUMES.

VOL. I.

AGRICULTURE, COMMERCE, ARCHITECTURE, SCULPTURE, PAINTING, MUSIC, the ART MILITARY.

VOL. II.

ART MILITARY, GRAMMAR, PHILOLOGY, RHETORIC, POETRY.

VOL. III.

POETRY, HISTORY, ELOQUENCE, PHILOSOPHY, CIVIL LAW, METAPHYSICS and PHYSICS, PHYSIC, BOTANY, CHYMISTY, ANATOMY, MATHEMATICS, GEOMETRY, ASTRONOMY, ARITHMETIC, GEOGRAPHY, and NAVIGATION.

By Mr. ROLLIN,

Late Principal of the University of Paris, Professor of Eloquence in the Royal College, and Member of the Royal Academy of Inscriptions and Belles Lettres.

Translated from the FRENCH.

The SECOND EDITION.

Illustrated with Fifty-two Copper Plates, representing the CIVIL and MILITARY ARCHITECTURE of the ANTIENTS, their TEMPLES, MACHINES, ENGINES of WAR, PAINTING, &c.

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the mins of the palace of Augustus Cerlan,

PON reading this part of the antient history in French, it was observed by several judicious persons, that the author's accounts of many things relating to civil and military architecture, machines and engines of war, &c. were, (as was unavoidable in describing such things) obscure, and in a manner unintelligible. He was sensible of this himself, in treating the Orders of architecture and the Roman camp; and therefore added the Plates of them, without which they could not be explaided.

To remove this Obscurity, and render this version the more perfect, the editors were A 3 advised

The TRANSLATOR to the READER.

advised to have recourse to the several works cited by Mr. Rollin. From these (Perrault's Virravius, Folard's Polybius, Montsaucon's Antiquities, &c.) the plates in these volumes are engraven, and the explanations of them extracted in as brief a manner as possible; which, it is hoped, will not only answer the purpose they were intended for, but throw such a new light into many parts of the preceding history, where the things they represent are mentioned, as will be equally useful and agreeable to the reader.

Dr. Richard Mead has been pleased to communicate an antient picture in his poffession, which was lately found at Rome, in the ruins of the palace of Augustus Cæsar, and supposed to be painted in his time, a Print from which, engraven by Mr. Baron, exactly the same fize with the original, is inferred in the fection of painting. This print being a reverse of the picture, occasions the crown's appearing in the left hand of Augultus. The reason an account of it was hot inferted in the same place, is because the original did not arrive from Italy, till this volume was almost printed off: And as the Latin inscription at the bottom is the best explanation that can be given of it, it is neceffary to infert the following translation of it in this place, for the use of the English To remove this Obleurity, and rendrabias

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The TRANSLATOR to the READER

" A fragment of an antient painting in " fresco, found anno 1737, in the ruins of " the palace of Augustus Cæsar, in the gar-" dens of Farnese upon mount Palatine at " Rome. It contains fix figures exquifitely " painted in the most lively and beautiful " colours; by one of which Augustus is re-" presented fitting, and holding out a crown " to some person, whose figure is broke off: the rest represent the courtiers attending, " amongst whom are Mæcenas in an azure " robe, and behind him M. Agrippa with " his right hand upon the shoulder of the " former; as appears from the refemblance " of these figures to their coins and gems.

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HE treating of the arts and sciences has carried me much farther than I imagined. I have repented more than once my having embarked in an undertaking, which required a great variety of knowledge, and that too in no common degree of perfection, to give a just, precise, and entire idea of the feveral subjects to which it extends. I foon discovered how unequal I was to the task, and have endeavoured to supply my own defects, by making the best use I could of the labours of fuch as are most expert in each art, that I might not lose myfelf in ways, of which some were little familiar, and others entirely unknown, to me.

I saw with secret joy the approaching end of my journey; not that I might abandon myself

To the READER.

myself to a soft and trivial inertion, inconfiftent with an honest man, and still more so with a christian; but to enjoy a tranquillity and repose, which might admit me to devote the few days I have yet to live, folely to the studies and exercises necessary to prepare me for that last moment, which is to determine my fate for evermore. I imagined, that, after having laboured more than fifty years for others, I might be permitted to take pains for the future only for myfelf, and to renounce entirely the study of profane authors, which may please the understanding, but are not capable of nourishing the foul. I was strongly inclined to make a choice that appeared so suitable, and almost necessary to me. seried me much farther than

However, the defire of the public, of which I could not be ignorant, gave me fome paule upon this head. I did not think proper to determine for myfelf, nor to take my own inclination for the rule of my conduct. I confulted separately several learned and wife friends, who all condemned me to undertake the Roman history: I mean that of the Republic. So unexpected a uniformity of sentiments surprized me, and made it no longer difficult for me to comply with advice, which I considered as an affured token of the will of God in regard to me.

I shall begin this new work, as soon as I have finished the other, which I am in hopes

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To the READER

to do very speedily * At seventy-fix years of age I have no time to lose; not that I flatter myself with being able to compleat it, though I shall apply myself to it as much as my strength and health will admit. Having only undertaken my first history, in discharge of the function, to which I conceived God had called me; that of beginning to form the hearts of youth, to give them the first tincture of virtue by the examples of the great men of the pagan world, and to lay those first foundations for conducting them on to more folid virtue; I find myfelf more than ever obliged to have the fame views in the history I am about to undertake. I shall endeavour not to forget, that God, in taking me off in the course of my work (for that I ought to expect) will not examine whether it be well or ill wrote, or received with, or without applause; but whether I composed it folely to please him, and render some service That thought will only augto mankind. ment my ardor and zeal, when I reflect for whom I take pains; and engage me to make new efforts, in order to answer the expectation of the public, improving as much as I can, from the good advice that has been kindly given me, in regard to my first history.

I have only to add, that I should be much to be pitied, if I expected no other reward

^{*} This history of the Roman republic is translated into

To the READER.

for my long and laborious application, than the praifes of this world. And yet who can flatter himself with being sufficiently upon his guard against so grateful an illusion? The labours of the pagans had no other view; and it is accordingly written of them: Receperunt mercedem fuam; Vani vanam, adds one of the fathers, They have received their reward, as vain as themselves. I ought much rather to propose to myself the example of that servant, who employs the whole industry and application in making the best use he can of the few talents his mafter has confided to him: in order to hear like him at the last day these words of consolation, far superior to Mat. xxv. all human praises: Well done thou good and faithful servant, thou hast been faithful over a few things; I will make the ruler over many things; enter thou into the joy of thy Lord. Amen. Amen. stied wand a shirt sign months

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ANTIENT HISTORY, &c.

Of ARTS and SCIENCES.

INTRODUCTION.

How useful the invention of arts and sciences has been to mankind. It ought to be attributed to God.

HE history of arts and sciences, and of the persons, who have most eminently diffinguished themselves by them, to speak properly, is the history of human wit, which in some sense does not give place to that of princes and heroes, whom common opinion places in the highest degree of elevation and glory. I do not intend, by speaking in this manner, to strike at the difference of rank and condition, nor to confound or level the order, which God himself has instituted amongst men. He has placed princes, kings, and rulers of states over our heads, with whom he has deposited his authority; and after them generals of armies, ministers, magistrates, and all those with whom the fovereign divides the cares of government. The honours paid them, and the pre-eminence they possess, are no usurpation on their side. It is VOL. I.

the divine providence itself, that has affigned them their high stations, and demands submission, obedience, and respect for those that sit in its place.

But there is also another order of things, and, if I may be permitted to fay fo, another disposition of the same providence, which, without regard to the first kind of greatness I have mentioned, establishes a quite different species of eminence, in which distinction arises neither from birth, riches, authority, nor elevation of place; but from merit and knowledge alone. It is the fame providence, that regulates rank also of this kind, by the free and entirely voluntary dispensation of the talents of the mind, which it distributes in what proportion, and to whom it pleases, without any regard to quality and nobility of person. It forms, from the affemblage of the learned of all kinds, a new species of empire, infinitely more extensive than all others, which takes in all ages and nations, without regard to age, fex, condition, or climate. Here the plebeian finds himself upon the level with the nobleman, the subject with the prince, nay, often his fuperior.

The principal law and justest title to deserving folid praises in this empire of literature, is, that every member of it be contented with his own place; that he be void of all envy for the glory of others; that he looks upon them as his collegues, destined as well as himself, by providence, to enrich society, and become its benefactors; and that he remembers, with gratitude, from whom he holds his talents, and for what ends they have been conferred upon him. For, indeed, how can those, who distinguish themselves most amongst the learned, believe, that they have that extent of memory, facility of comprehending, industry to invent and make discoveries; that beauty, vivacity, and penetration of mind from themselves; and, if they possess all thele advantages from fomething exterior, how can

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they assume any vanity from them? But can they believe they may use them at their own pleasure, and feek, in the application they make of them, only their own glory and reputation? As providence places kings upon their thrones folely for the good of their people, it distributes also the different talents of the mind folely for the benefit of the public. But in the lame manner as we sometimes fee in states usurpers, and tyrants, who, to exalt themselves alone, oppress all others; there may also arise amongst the learned, if I may be allowed to fay fo, a kind of tyranny of the mind, which consists in regarding the successes of others with an evil eye; in being offended at their reputation; in lessening their merit; in esteeming only one's self, and in affecting to reign alone: A hateful defect, and very dishonourable to learning. The folid glory of the empire of learning in the present question, I cannot repeat it too often, is not to labour for one's felf, but for mankind; and this, I am fo bold to fay, is what places it exceedingly above all the other empires of the world.

The victories which take up the greatest part of history, and attract admiration the most, have generally no other effects, but the defolation of countries, the destruction of cities, and the slaughter of Those so much boasted heroes of antiquity, have they made a fingle man the better? Have they made many men happy? And if, by the founding of states and empires, they have procured posterity some advantage, how dearly have they made their cotemporaries pay for it, by the rivers of blood they have shed? Those very advantages are confined to certain places, and have a certain duration. Of what utility to us, at this day, are either Nimrod, Cyrus, or Alexander? All those great names, all those victories, which have astonished mankind from time to time; those princes and conquerors, with all their magnificence and vast designs, are

feturned

But the inventors of arts and sciences have laboured for all ages of the world. We still enjoy the fruits of their application and industry. They have provided, at a great distance, for all our occasions. They have procured for us all the conveniencies of life. They have converted all nature to our uses. They have reduced the most indocile matter to our service. They have taught us to extract from the bowels of the earth, and even from the deeps of the fea, the most precious riches; and, what is infinitely more estimable, they have opened to us the treasures of all the sciences, and have guided us to knowledge the most sublime, the most useful, and the most worthy of our nature. They have put into our hands, and placed before our eyes, whatever is most proper to adorn the mind, to direct our manners, and to form good citizens, good magistrates, and good princes.

These are part of the benefits we have received from those who have invented and brought arts and sciences to perfection. The better to know their value, let us transport ourselves in imagination back to the infancy of the world, and those gross ages, when man, condemned to eat his bread by the sweat of his brow, was without aids and instruments, and obliged however to cultivate the earth, that he might extract nourishment from it; to erect himself huts and roofs for his security; to provide cloathing for his defence against the frosts and rains; and, in a word, to find out the means to satisfy all the necessities of life. What labours, what difficulties, what disquiets! All which are spared us.

We do not sufficiently consider the obligations we are under to those equally industrious and laborious men, who made the first essays in arts, and

applied

applied themselves in those useful but elaborate refearches. That we are commodiously housed, that we are cloathed, that we have cities, walls, habitations, temples; to their industry and labour we are indebted for them all. It is by their aid our hands cultivate the fields, build houses, make stuffs and habits, work in brass and iron; and, to make a transition from the useful to the agreeable, that we use the pencil, handle the chiffel and graver, and touch instruments of music; these are solid and permanent advantages and emoluments, which have always been increasing from their origin; which extend to all ages and nations, and to all mankind in particular; which will perpetuate themselves throughout all times, and continue to the end of the world. Have all the conquerors together done any thing, that can be imagined parallel with fuch fervices? All our admiration, however, turns generally on the fide of these heroes in blood, whilst we fcarce take notice of what we owe to the inventors of arts.

But we must go farther back, and render the just homage of praise and acknowledgment to him, who alone has been, and was capable of being, their author. This is a truth confessed by the Pagans themselves; and Cicero attests most expressly, that men have all the conveniencies of life from God Lib. 3. De alone: Omnes mortales sic babent, externas commonate distante a life of the latest and literate and literate a life of the latest and literate a life of the latest and literate a life of the latest and literate and literate

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Pliny the naturalist explains himself still in a stronger manner, where he speaks of the wonderful effects of simples and herbs in regard to distempers; and the same principle may be applied to a thousand other effects, which seem more astonishing than those. * "It is, says he, to understand very ill the

B 2 " gifts

^{*} Quæ si quis ullo fortè ab homine excogitari potuisse credit, ingratè deorum munera intelligit—Quod certe casu repertum quis dubitet? Hic ergo casus, hic est ille, qui plurima in vita invenit Deus. Hoc habet nomen, per quem intelligitur eadem & parens rerum omnium & magistra natura. Plin.

" gifts of the divinity, and to repay them with ingratitude, to believe them capable of being invented by man. It is true, chance feems to have given birth to these discoveries; but

that chance is God himself; by which name, as well as by that of Nature, we are to under-

" fland him alone, who is the great parent of all

" things."

In effect, how little foever we reflect upon the relation and proportion which appears, for instance, between the works of gold, filver, iron, brafs, lead, and the rude mass as it lies hid in the earth, of which they are formed; between linen cloth, whether fine and thin, or coarse and strong, and flax and hemp; between stuffs of all forts, and the fleece of sheep; between the glossy beauty of wrought filks, and the deformity of an hideous infect: we ought to affure ourselves, that man, abandoned to his own faculties, could never have been able to make fuch happy discoveries. It is true, as Pliny has observed, that chance has seemed to give birth to most inventions: But who does not fee, that God, to put our gratitude to trial, takes pleafure to conceal himself under those fortuitous events. as under fo many veils, through which our reason, whenever so little enlightened by faith, traces with ease the beneficent hand, which confers so many gifts upon us?

The divine providence shews itself no less in many modern discoveries, which now appear to us exceedingly easy; and however escaped, during all preceding ages, the knowledge and inquiries of the many persons, always intent upon the study and persection of arts; till it pleased God to open their eyes, and to shew them what they did

not see before.

In this number may be reckoned both wind and water mills, so commodious for the uses of life, which however are not very antient. The antients engraved

engraved upon copper. Whence was it, that they never reflected, that, by impressing upon paper what they had engraved, they might write that in a moment, which they had been fo long in cutting with a tool? It is, notwithstanding, only about three hundred years fince the art of printing books has been discovered. The same may be said of gunpowder, of which our antient conquerors were in great want, and which would have very much abridged the length of their fieges. The compass, that is to fay, the needle touched with the loadstone, suspended upon an axis, is of such wonderful use, that to it alone we stand indebted for the knowledge of the new world, and all the people of the earth are united by commerce. How came it, that mankind, who knew all the other properties of the loadstone, were so long without discovering one of fuch great importance?

We may conclude in the same manner, I think, not only in regard to the incredible difficulty of some discoveries, which do not offer themselves by any outward appearances, and are, however, almost as old as the world; but from the extreme facility of other inventions, which seem to guide us to them, and yet have not been discovered till after many ages; that both the one and the other are absolutely disposed by the direction of a superior Being, which governs the universe with infinite

wisdom and power.

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We are indeed ignorant of the reasons, which have induced God to observe a different conduct in the manifestation of these mysteries of nature, at least in a great measure; but that conduct is, however, no less to be revered. What he suffers us sometimes to see of it, ought to instruct us in respect to all the rest. Christopher Columbus conceives the design to go in search of new worlds. He addresses himself, for that end, to several princes, who look upon his enterprize as madness, and

After these observations, which I thought useful to many of my readers. I shall proceed to my sub-

to many of my readers, I shall proceed to my subject. I shall divide all that relates to the arts and sciences into three books. In the first I shall treat of agriculture, commerce, architecture, sculpture, painting, and music. In the second, I shall treat of the art military, and what regards the raising and maintaining troops, battles, and sieges, both by sea and land. In the last book, with which my work will conclude, I shall run over the arts and sciences, that have most relation to the mind; Grammar, poetry, history, rhetoric, and philosophy, with all the branches that either depend on,

or have any relation to them.

I must observe beforehand, with the same freedom I have professed hitherto, that I undertake to treat a subject of which many parts are almost entirely unknown to me. For this reason, I shall have occasion for new indulgence. I demand permission therefore to make use freely, as I have always done, (and am now reduced to do more than ever) of all the helps I shall meet with in my way. I shall hazard losing the glory of being an author and inventor: But I willingly renounce it,

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INTRODUCTION.

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provided I have that of pleasing my readers, and of being any way useful to them. Profound Erudition must not be expected here, though the subject seems to imply it. I do not pretend to instruct the learned; my aim is to make choice of that from all the arts, which may best suit the capacities of the generality of readers.



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HISTORY

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CHAPTER I, OF AGRICULTURE,

ARTICLE I.

Antiquity of agriculture. Its utility. The esteem it was in amongst the antients. How important it is to place it in honour, and how dangerous to neglect the application to it.

MAY with justice place agriculture at the head of the arts, which has certainly the advantage of all others, as well with regard to its antiquity as utility. It may be faid to be as antient as the world, having taken birth in the terrestrial Paradise itself, when Adam, newly come forth from the hands of his Creator, still possessed the precious but frail treasure of his innocence; God, having placed him in the garden of delights, commanded him to cultivate it; ut operaretur illum: to dress and keep it. That culture was not painful and Gen.ii.15. laborious, but easy and agreeable; it was to serve

him for amusement, and to make him contemplate in the productions of the earth the wisdom and li-

berality of his Master.

The fin of Adam having overthrown this order, and drawn upon him the mournful decree, which condemned him to eat his bread by the sweat of his brow; God changed his delight into chastisement, and subjected him to hard labour and toil; which he had never known, had he continued ignorant of evil. The earth, become stubborn and rebellious to his orders, to punish his revolt against God, brought forth thorns and thistles. Violent means were necessary to compel it to pay him the tribute, of which his ingratitude had rendered him unworthy, and to force it, by labour, to supply him every year with the nourishment, which before was given him

freely and without trouble.

From hence therefore we are to trace the origin of agriculture, which, from the punishment it was at first, is become, by the singular goodness of God, in a manner the mother and nurse of the human race. It is in effect the fource of folid wealth and treafures of a real value, which do not depend upon the opinion of men; which suffice at once to necesfity and enjoyment, by which a nation is in no want of its neighbours, and often necessary to them; which make the principal revenue of a state, and fupply the defect of all others, when they happen to fail. Though mines of gold and filver should be exhaufted, and the species made of them lost; though pearls and diamonds should remain hid in the womb of the earth and sea; though commerce with strangers should be prohibited; though all arts, which have no other object than embellishment and splendor, should be abolished; the fertility of the earth alone would afford an abundant supply for the occasions of the public, and furnish subsistence both for the people, and armies to defend it.

We ought not to be furprized therefore, that agriculture was in fo much honour amongst the antients; it ought rather to seem wonderful that it ever should cease to be so, and that of all professions the most necessary and most indispensable should have fallen into so great contempt. We have seen in the whole course of our history, that the principal attention of the wisest princes, and the most able ministers, was to support and encountered by handers.

rage husbandry.

Amongst the Assyrians and Persians the Satrapæ were rewarded, in whose governments the lands were well cultivated, and those punished who neglected that part of their duty. Numa Pompilius, one of the wifest kings antiquity mentions, and Dion. Hawho best understood and discharged the duties of Antiq. the fovereignty, divided the whole territory of Rom. 1. 2. Rome into different cantons. An exact account P. 135. was rendered him of the manner in which they were cultivated, and he caused the husbandmen to come before him, that he might praise and encourage those whose lands were well manured, and reproach others with their want of industry. The riches of the earth, fays the historian, were looked upon as the justest and most legitimate of all riches, and much preferred to the advantages obtained by war, which are of no long duration. Ancus Martius, Id. 1. 3. the fourth king of the Romans, who piqued him- P. 177. felf upon treading in the steps of Numa, next to the adoration of the gods, and reverence for religion, recommended nothing fo much to the people, as the cultivation of lands, and the breeding of cattle. The Romans long retained this disposition, and*in the latter times, whoever did not discharge this duty well, drew upon himself the animadverfion of the cenfor.

^{*} Agrum male colere Censorium probrum adjudicabatur. Plin. 1. 18. c. 3.

It is known from never failing experience; that the culture of lands, and the breeding of cattle, which is a consequence and necessary part of it, has always been a certain and inexhaustible source of wealth and abundance. Agriculture was in no part of the world in higher consideration than in Egypt, where it was the particular object of government and policy: and no country was ever better peopled, richer, or more powerful. The strength of a state is not to be computed by extent of country, but by the number of its citizens, and the utility of their labour.

It is hard to conceive how so small a tract as the land of Promise should be able to contain and nou-rish an almost innumerable multitude of inhabitants: this was from the whole country's being cul-

tivated with extreme application.

What history relates of the opulence of feveral cities in Sicily, and in particular of the immense riches of Syracuse, of the magnificence of its buildings, of the powerful fleets it fitted out, and the numerous armies it had on foot, would appear incredible, if not attested by all the antient authors. From whence can we believe, that Sicily could raife wherewith to support such enormous expences; if not from the increase of their lands, which were improved with wonderful industry? We may judge of their application to the culture of land, from the care taken by one of the most powerful kings of Syracuse, (Hiero II.) to compose a book upon that subject, in which he gave wife advice and excellent rules, for supporting and augmenting the fertility of the country.

Besides Hiero, * other princes are mentioned, who did not think it unworthy their birth and rank to leave posterity precepts upon agriculture; so sensible were they of its utility and value: Of this

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^{*} De cultura agri præcipere principale fuit, etiam apud exteros. Plin. 1. 18. c. 3.

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number were Attalus, firnamed Philometer, king of Pergamus, and Archelaus of Cappadocia. I am less surprized, that Plato, Xenophon, Aristotle, and other philosophers, who have treated politics in particular, have not omitted this article, which makes an effential part of that subject. But who would expect to fee a Carthaginian general amongst these authors? I mean Mago. He must have treated this matter with great extent, as his work, which was found at the taking of Carthage, confifted of twenty-eight volumes. So high a value D. Svilawas fet on it, that the fenate ordered it to be tranf- nus. lated, and one of the principal magistrates took upon himself the care of doing it. Cassius Diony- varr. de re fius of Utica had before translated it out of the rust. 1. 1. Punic language into Greek.

Cato, the cenfor, had however published his books upon the same subject. For Rome was not then entirely deprayed, and the taste for the antient simplicity still continued in a certain degree. She remembered with joy and admiration, that in antient times her senators lived almost continually in the country; that they cultivated their lands with their own hands, without ever deviating into rapacious and unjust desires of those of other men; and that * consuls and dictators were often taken from the plow. In those happy times, says Pliny, † the earth, glorious in seeing herself cultivated by the hands of triumphant victors, seemed to make new efforts, and to pro-

duce her fruits with greater abundance; that is,

^{*} Antiquitus ab aratro arcessebantur ut consules sierent—Atilium sua manu spargentem semen qui missi erant convenerunt—Suos agros studiose colebant, non alienos cupide appetebant. Cic. pro Rosc. Amer. n. 50.

[†] Quæ nam ergo tantæ ubertatis causa erat? Ipsorum tunc manibus Imperatorum colebantur agri (ut sas est credere) gaudente terra vomere laureato, & triumphali aratore: sive illi eadem cura semina tractabant, qua bella, eademque diligentia arva disponebant, qua castra: sive honestis manibus omnia lætius proveniunt, quoniam & curiosius siunt. Plin. 1.18. c. 3.

no doubt, because those great men, equally capable of handling the plow and their arms, of sowing and conquering lands, applied themselves, with more attention to their labour, and were also more specifically in effect of it.

And indeed, when a person of condition, with a superior genius, applies himself to arts, experience shews us, that he does it with greater ability, force of mind, industry, taste, and with more inventions, new discoveries, and various experiments; whereas an ordinary man confines himself servicely within the common road, and to his antient customs. Nothing opens his eyes, nothing raises him above his old habitudes; and after many years of labour he continues still the same, without making any pro-

gress in the profession he follows.

Those great men I have mentioned, had never undertaken to write upon agriculture, if they had not been fensible of its importance, which most of them had personally experienced. We know what a tafte Cato had for a rural life, and with what application he employed himfelf in it. The example of an antient Roman, whose farm adjoined to his, was of infinite service to him. (This was Manlius Curius Dentatus, who had thrice received the honour of triumph.) Cato often went to walk in it, and confidering the * small extent of that land, the poverty and simplicity of the house, he was fruck with admiration for that illustrious person, who, when he became the greatest of the Romans, having conquered the most warlike nations, and driven Pyrrhus out of Italy, cultivated this little land with his own hands, and, after so many triumphs, inhabited fo wretched a house. Is it tl

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Hunc, & incomptis Curium capillis
Utilem bello tulit & Camillum
Szva paupertas, & avitus apto
Cum lare fundus.

here, * said he to himself, that the ambassadors of the Samnites found him by his fire-side, boiling roots, and received this wise answer from him, after having offered him a great sum of money: That gold was a thing of small value to one who could be satisfied with such a dinner; and that, for his part, he thought it more glorious to conquer those who had that gold, than to posses it himself. Full of these thoughts, Cato returned home, and making an estimate of his house, lands, slaves, and expences, he applied himself to husbandry with more ardor, and retrenched all needless superfluity.

Though very young at that time, he was the admiration of all that knew him. Valerius Flaccus, one of the most noble and most powerful persons of Rome, had lands contiguous to Cato's small farm. He there often heard his flaves speak of his neighbour's manner of living, and of his labour in the field. He was told, that in the morning he used to go to the small cities in the neighbourhood, to plead and defend the causes of those, who applied to him for that purpose. That from thence he returned into the field, where throwing a mean coat over his shoulders in winter, and almost naked in fummer, he worked with his fervants, and after they had done, he fate down with them at table, and eat the same bread, and drank the + same wine.

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We see by these examples how far the antient Romans carried the love of simplicity, poverty,

^{*} Curio ad focum sedenti magnum auri pondus Samnites cum attulissent repudiati ab eo sunt. Non enim aurum habere præclarum sibi videri dixit, sed iis qui haberent aurum imperare. Cicero makes

Cato bimself speak thus, in his book upon old age, n. 55.

† This puts me in mind of a fine saying of Pliny the younger's, who gave his freedmen the same wine he drank himself. When somebody represented that this must be very chargeable to him: No, said he; my freedmen don't drink the same wine I drink, but I the same they do. Quia scilicer liberti mei non idem quod ego bibunt, sed idem ego

quod liberti. Plin. 1. 2. Epift. 6.

Var. 1. 3.

and labour. I read with fingular pleasure the tart and fensible reproaches, which a Roman fenator makes to the augur Appius Claudius, upon the magnificence of his country-houses, by comparing them to the farm where they then were. "Here, " faid he, we fee neither painting, statues, carving, " nor mosaic work; but, to make us amends, we " have all that is necessary to the cultivation of " lands, the dreffing of vines, and the feeding of cattle. In your house every thing shines with " gold, filver, and marble; but there is no fign of arable lands or vineyards. We find there " neither ox, nor cow, nor sheep. There is neither " hay in cocks, vintage in the cellars, nor harvest " in the barn, Can this be called a farm? In what " does it resemble that of your grandfather, and " great-grandfather?"

After luxury was introduced to this height amongst the Romans, the lands were far from being cultivated, or producing revenues as in antient days. * At a time when they were in the hands of slaves or abject mercenaries, what could be expected from such workmen, who were forced to their labour only by ill treatment? This was one of the great, and most imprudent neglects, remarked by all the writers upon this subject in the latter times; because to cultivate lands properly, it is necessary to take pleasure and be delighted with the work, and for that end to find it for one's interest and gain to follow it.

It is therefore highly important, that the whole land of a kingdom should be employed to the best advantage, which is much more useful than to extend its limits; in order to this each master of a family, residing in the small towns and villages, should have some portion of land appropriated to

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^{*} Nunc eadem illa (arva) vincti pedes, damnatæ manus, inscrip i vultus exercenti—Nos miramur ergastulorum non eadem emolumenta esse, quæ fuerint Imperatorum. Pin. l. 18. c. 3. himself;

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himself; whence it would follow, that this field, by being his own, would be dearer to him than all others, and be cultivated with application; that his family would think fuch employment their interest, attach themselves to their farm, subsist upon it, and by that means be kept within the country. When the country-people are not in their own estates, and are only employed for hire, they are very negligent in their labour, and even work with regret. A lord and land-holder ought to defire, that their lands and effates should continue a long time in the fame family, and that their farmers should succeed in them from father to fon; from whence a quite different regard for them would arise: And what conduced to the interest of particulars, would also promote the general good of the state.

But when an husbandman or farmer has acquired some wealth by their industry and application, which is much to be desired by the landlord for his own advantage; † it is not by this gain, says Cicero, the rents laid on them are to be measured, but by the lands themselves, they turn so much to their account; the produce of which ought to be equitably estimated and examined into, for ascertaining what new imposition of rents they will bear. For to rack-rent and oppress those who have applied themselves well to their business, only because they have done so, is to punish, and indeed to abolish, industry; whereas, in all well regulated states, it has always been thought necessary to animate it by emulation and reward.

One reason of the small produce of the lands, is, because agriculture is not looked upon as an art

^{*} Lucium Volusium asseverantem audivi, patris familias sælicissimum fundum esse, qui colonos indigenas haberet, & tanquam in paterna possessimone notois, jam inde a cunabulis longa familiaritate retineret. Colum. 1. 1. c. 7.

retineret. Colum. 1. 1. c. 7.

† Cum Aratori aliquod onus imponitur, non omnes, si quæ sunt præterea, facultates sed arationis ipsius vis ac ratio consideranda est, quid ea sustinere, quid pati, quid efficere possit ac debeat. Cic. Verr. de frum. n. 199.

Colum. l. 1. c. 1. that requires study, reflections, and rules: every one abandons himself to his own taste and method. whilst no-body thinks of making a serious scrutiny into them, of trying experiments, and * of uniting precepts with experience. The antients did not think in this manner. They judged three things necessary to success in agriculture. The will: this employment should be loved, defired, and delighted in, and followed in consequence out of pleasure. The power: it is requisite to be in a condition to make the necessary expences for the breeding and fattening of cattle and fowl of all forts, for labour, and for whatever is necessary to the manuring and improving of lands; and this is what most of our husbandmen want. The skill: it is necessary to have studied maturely all that relates to the cultivation of lands, without which the two first things are not only ineffectual, but occasion great losses to the mafter of a family, who has the affliction to fee, that the produce of the land is far from answering the expences he has been at, or the hopes he had conceived from them; because those expences have been laid out without discretion, and without knowledge of the application of them. To these three heads a fourth may be added, which the antients had not forgot, that is, + experience, which prefides in all arts, is infinitely above precepts, and makes even the faults we have committed our advantage: for, from doing wrong, we often learn to do right.

Agriculture was in quite different esteem with the antients, to what it is with us: which is evident from the multitude and quality of the writers upon this subject. Varro cites to the number of fifty

amongit

^{*} Debemus & imitari alios, & aliter ut faciamus quadam experientia tentare. Varro. 1. 1. c. 18.

[†] Usus & experientia dominantur in artibus, neque est ulla disciplina in qua non peccando discatur. Nam ubi quid perperam administratum cesserit improspere, vitatur quod fefellerat, illuminatque rectam viam docentis magisterium. Colum. ibid.

amongst the Greeks only. He wrote upon it also himself, and Columella after him. The three Latin authors, Cato, Varro, and Columella, entered into a wonderful detail upon all the parts of agriculture. Would it be an ungrateful and barren employment to compare their opinions and reflections with the

modern practice?

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Columella, who lived in the time of Tiberius, colum. in deplores, in a very varm and eloquent manner, præem. the general contempt into which agriculture was fallen in his time, and the perfuation men were under, that, to fucceed in it, there was no occasion for a mafter. "I fee at Rome, faid he, the schools " of philosophers, rhetoricians, geometricians, " musicians, and, what is more astonishing, of peo-" ple folely employed, fome in preparing diffies " proper to pique the appetite, and excite glut-"tony; and others to adorn the head with artificial " curls, but not one for agriculture *. However, "the rest might be well spared; and the republic " flourished long without any of those frivolous " arts; but it is not possible to want that of hus-" bandry, because life depends upon it. "Besides, is there a more honest or legal means

" of preferving, or increasing, a patrimony? Is the " profession of arms of this kind, and the acquisi-"tion of spoils always dyed with human blood, " and amassed by the ruin of an infinity of per-"fons? Or is commerce fo, which, tearing citizens " away from their native country, exposes them to " the fury of the winds and feas, and drags them " into unknown worlds in pursuit of riches? Or is " the trade + of money and usury more laudable, " odious and fatal as they are, even to those they

" feem to relieve? Can any one compare any of * Sine ludicris artibus-olim fatis fælices fuere futuræque funt

urbes; at fine agricultoribus nec confistere mortales, nec ali posse manifestum est.

[†] An fæneratio probabilior sit etiam his invisa quibus succurrere videtur,

"ture, which only the depravity of our manners can render contemptible, and, by a necessary con-

" fequence, almost barren and useless? " Many people imagine, that the sterility of our " lands, which are much less fertile now than in times past, proceeds from the intemperance of " the air, the inclemency of feafons, or from the " alteration of the lands themselves, that, weakened and exhausted by long and continual la-" bour, are no longer capable of producing their " fruits with the fame vigour and abundance, "This is a miftake, fays Columella: we ought " not to imagine, that the earth, to whom the au-"thor of nature has communicated a perpetual " fecundity, is liable to barrenness, as to a kind 66 of disease. After its having received from its " mafter a divine and immortal youth, which has " occasioned its being called the common mother " of all things, because it always has brought " forth, and ever will bring forth from its womb, whatever fubfifts, it is not to be feared, that it " will fall into decay and old age like man. It is " neither to the badness of the air, nor to length of "time, that the barrenness of our lands is to be "imputed; but folely to our own fault and neg-" lect: we should blame only ourselves, who aban-"don those estates to our slaves, which, in the s days of our ancestors, were cultivated by the " most noble and illustrious."

This reflection of Columella's seems very solid, and is consirmed by experience. The land of Canaan (and as much may be said of other countries) was very fertile, at the time the people of God took possession of it, and had been seven hundred years inhabited by the Canaanites. From thence to the Babylonish captivity was almost a thousand years. In the latter days, there is no mention of its being exhausted, or worn out by time, without

fpeaking

speaking of the after-ages. If therefore it has been almost entirely barren during a long course of years, as it is faid, we ought to conclude with Columella, that * it is not from its being exhaulted or grown old, but because it is deserted and neglected. And we ought also to conclude, that the fertility of some countries, of which so much is said in history, arises from the particular attention of the inhabitants in tilling the land, in cultivating the vines, and breeding of cattle: which important article it is now expedient to confider in a particular manner.

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ARTICLE

Of tillage. Countries famous amongst the antients for abounding with corn.

I Shall confine myfelf, in speaking of tillage, to what relates to wheat, as the most important part of that subject.

The countries most famous for abounding in Demost. corn were Thrace, Sardinia, Sicily, Egypt, and in orat. Africa.

Athens brought every year only from Byzantium Id. in four hundred thousand medimni of wheat, as De-Phorm. mosthenes informs us. The medimnus contained P. 346. fix bushels, and was fold in his time for no more than five drachmas, that is to fay, for fifty pence French. How many other cities and countries did Thrace furnish with corn, and how fertile must it confequently have been?

It is not without reason that * Cato the censor, whole gravity of manners occasioned him to be sir-

* Non igitur fatigatione, quemadmodum plurimi crediderunt, nec senio, sed nostra scilicet inertia minus benigne nobis arva respondent. Colum. 1. 2. c. 2.

* Ille M. Cato Sapiens cellam penariam reip. nostræ, nutricem plebis Romanæ Siciliam nominavit-Itaque ad omnes res Sicilia provincia semper usi sumus; ut, quicquid ex se posset afferre, id non apud eos nasci sed domi nostri conditum putaremus. Cic. Verr. c. 3.

there is much Confusion in this Chepler from the Irens Ceton faving render the Word modius - 1, Bushel: The hadines is a Peck only.

named the Wife, called Sicily the magazine and nursing mother of the Roman people. And, indeed, it was from thence Rome brought almost all her corn, both for the use of the city, and the subsistence of her armies. We see also in Livy, that Sardinia supplied the Romans with abundance of countines, of which to much is taid an hilmon

Sext. Aurel. Vict. in epito.

All the world knows how much the land of Egypt, watered and enriched by the Nile, which ferved it instead * of the husbandman, abounded with corn. When Augustus had reduced it into a Roman province, he took particular care of the bed and canals of this beneficent river, which by degrees had been clogged with mud, through the neglect of the kings of Egypt, and caused them to be cleanfed by the Roman troops, whom he left From thence came regularly every year twenty millions of bushels of wheat. Without this fupply, the capitol of the world was in danger of perishing by famine. She saw herself in this condition under Augustus, for there remained only three days provision of corn in the city. That prince, who was full of tenderness for the people, had resolved to poison himself, if the expected sleets did not arrive before the expiration of that time. They came, and the preservation of the people was attributed to the good fortune of the prince. We shall fee, that wife precautions were afterwards taken to avoid the like danger for the future.

Plin. 1. 18. Africa did not give place to Egypt in point of fertility. In one of its countries, one bushel of wheat fown has been observed to produce an hundred and fifty. From a fingle grain almost four hundred ears would fometimes fpring up, as we find by letters to Augustus and Nero, from those who governed Africa under them. This was no doubt very uncommon. But the same Pliny, who

relates

^{*} Nihil ibi coloni vice fungitur. Plin.

relates these facts, assures us, that in Boeotia and Egypt it was a very common thing for a grain to produce an hundred and fifty ears; and he observes, upon this occasion, the attention of the divine providence, which hath ordained, that of all the plants that which it had appointed for the nourishment of man, and in consequence the most necessary, should be also the most fruitful.

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I have faid, that Rome at first brought almost all her corn from Sicily and Sardinia. In process of time, when the had made herfelf mistress of Carthage and Alexandria, Africa and Egypt became her store-houses. Those cities sent numerous sleets every year, freighted with wheat for the use of the people, then lords of the universe. And, when the harvest happened to fail in one of these provinces, the other came in to its aid, and supported the capitol of the world. Corn, by this means, was at Liv. 1. 31. a very low price at Rome, and sometimes sold for n. 50. no mo e than two affes, or pence, a bushel. The Id. 1. 35. whole coast of Africa abounded exceedingly with n. 62. corn, in which part of the wealth of Carthage confifted. The city of Leptis only, fituated in the leffer Syrtis, paid a daily tribute to it of a talent, that is to fay, of three thousand livres. In the war Id. 1. 43. against Philip, the Carthaginian ambassadors sup- n. 6. plied the Romans with a million of bushels of corn, and five hundred thousand of barley. Those of Maffiniffa gave them also as much.

Constantinople was supplied in the same manner, when the seat of empire was transplanted thither. An admirable order was observed in both these cities, for subsisting the immense number of people that inhabited them. The emperor Constantine socrat. 1.2. caused almost fourscore thousand bushels of corn, c. 13. which came from Alexandria, to be distributed daily at Constantinople; this was for the subsistence of six hundred and forty thousand men, the Roman bushel serving only eight men. When the

emperor

OF AGRICULTURE.

Ælian. Spartian. in Sever.

emperor Septimus Severus died, there was corn in the public magazines for feven years, expending daily feventy-five thousand bushels, that is to say, bread for fix hundred thousand men. What a provision was this against the dearth of any future years! dingon our for hande and it in the man

Besides these I have mentioned, there were ma-

ny other countries very fruitful in corn.

Cic. in Verr. de frum. n. 112. C. 7.

Cap. 70.

For the fowing of an acre only one medimnus of corn was required: Medimnum. The medimnus confifted of fix bushels, each of which contained Piin. l. 18. very near twenty pounds weight of corn. (It is obferved, in the Spectacle de la Nature, that the usual and fufficient quantity for fowing an acre is an hundred and twenty pounds of corn: which comes to the same amount.) The highest produce of an acre was ten medimni of corn, that is to fay, ten for one; but the ordinary produce was eight, with which the husbandmen were well fatisfied. It is from Cicero we have this account; and he must have known the subject very well, as he uses it in the cause of the Sicilians against Verres. He speaks of the country of the Leontines, which was one of the most fruitful in Sicily. The highest price of a bushel of corn amounted to three Sesterces, or feven pence half-penny. It was less than that of France by almost one fourth. Our Septier contains twelve bushels, and is often fold for ten livres. By that estimate our bushel is worth fixteen pence, and fomething more; that is to fay, twice the price of the bushel of the antients, and fomething more.

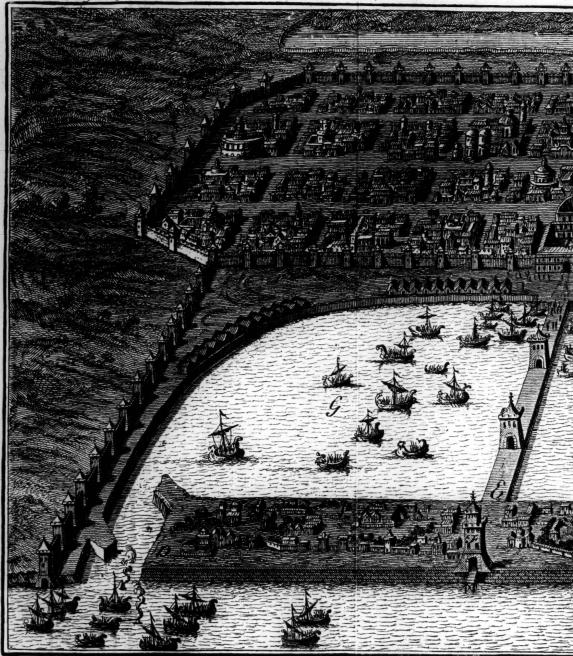
All that Cicero relates upon the subject of corn, as to its price, how much of it was necessary for fowing an acre, and what quantity it produced being fown, ought not to be confidered as an established rule; for that might vary considerably ac-

cording to foils, countries, and times.

The

Cic. ibid.

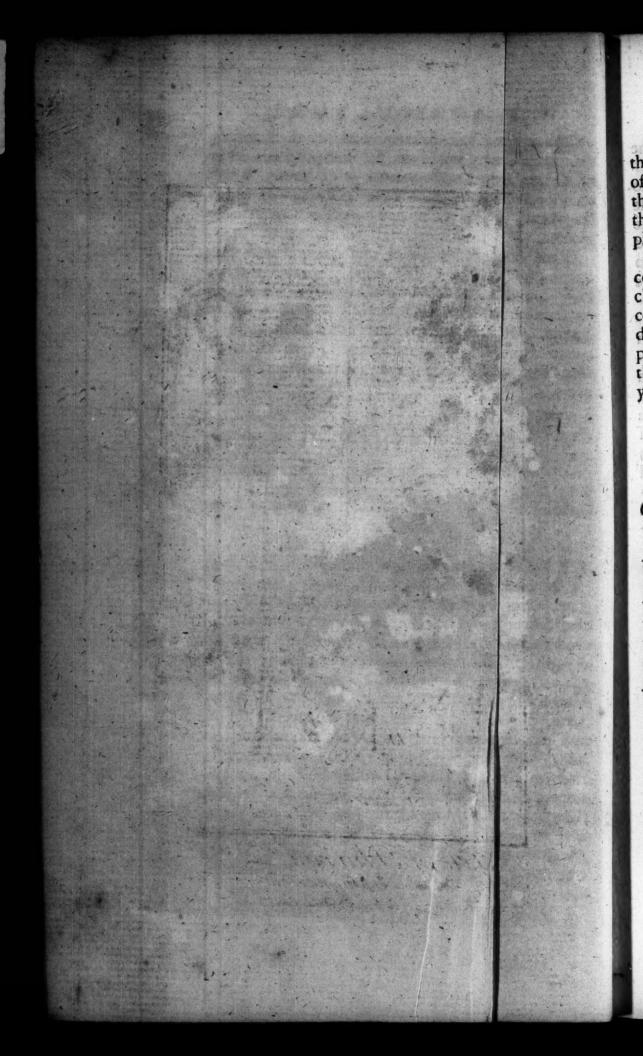
n. 173.



A View of the City & Port of Alexand. The City B. The Kings Palace C. The Theatre adjoining to it forms it to the Town F. The Lighthouse G. The Port



g to it D, The Island of Pharos & The narrow may that Putished Feb. 1. 1754. by 9. & P. Knapton



The antients had different methods of threshing Plin. 1. 18their corn; they made use, for that purpose, either corn of sledges armed with points; or of horses, which they made trample upon it; or of slails, with which they beat the sheaves, as is now customary in many places.

They also used various methods for preserving corn a great while, especially by shutting it up close in the ear in subterranean caverns, which they covered on all sides with straw, to defend it against damps; closing the entrance with great care, to prevent the air from getting in. Varro assures us, Lib. 1. de that corn would keep good in that manner for fifty re rust. years.

ARTICLE III.

SECT I.

Cultivation of the vine. Wines celebrated in Greece and Italy.

TE may believe, that mankind have been no less industrious in the cultivation of the vine, than in that of corn, though they applied themselves to it later. The Scripture informs us, that the use of wine was not known till after the deluge: Noah began to be an husbandman, and he Gen. ix. planted a vineyard. It was, no doubt, known be- 20. fore, but only in the grape, and not as liquor. Noah planted it by order, and discovered the use that might be made of the fruit, by preffing out and preserving the liquor. He was deceived by its sweetness and strength, which he had not experienced: And be drank of the wine and was drunken. The Pagans transferred the honour of the invention of wine to Bacchus, of which they never had much knowledge; and what is faid of Noah's drunkenness,

2 samil

Lib. I. de

drunkenness, made them consider Bacchus as the

god of drunkenness and debauch.

The offspring of Noah, having dispersed into the feveral countries of the world, carried the vine with them from place to place, and taught the use to be made of it. Asia was the first that experienced the sweetness of this gift, and soon imparted it to Iliad. 1. 7. Europe and Africa. We see in Homer, that in the time of the Trojan war, part of the commerce con-

fifted in the freight of wines.

The wine was kept in those days in large earthen jars, or in the fkins of beafts, which custom continues to this day in countries where wood is not in plenty. It is believed that we are indebted to the Gauls, that fettled on the banks of the Po, for the useful invention of preserving our wine in vessels of wood exactly closed, and for retaining it with in bounds, notwithstanding its fermentation and strength. From that time the keeping and transporting it became more easy, than when it was kept in earthen vessels, which were liable to be broke; or in bags of skin, apt to unsew, or grow mouldy.

1.9.v.197.

Homer mentions a very famous wine of Maronæ in Thrace, which would bear mixing with twenty times as much water. But it was common for the natives to drink it unmixed. * Nor have authors been filent upon the excessive brutalities, to which that nation were subject. Pliny tells us, that + Mucianus, who had been thrice Conful, being in Plin. 1. 14. that country in his own time, had experienced the truth of what Homer fays, and feen, that in a certain measure of wine they put fourscore times as

* Natis in usum lætitiæ scyphis

Pugnare Thracum est. Hor. Od. 27. 1. 1.

With bowls for mirth and joy design'd To fight befits the Thracinn hind.

+ This was the celebrated Mucianus, who had so much share in the election of Vespasian to the empire.

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much water; which is four times as much as the Grecian poet speaks of.

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The same author mentions wines much cele-Plin. 1. 14. brated in Italy, which took their name from Opimius, in whose consulate they were made, which were preserved to his time, that is, almost two hundred years, and were not to be purchased for money. A very small quantity of this, mingled with other wines, communicated to them, as was pretended, a very surprizing strength and exquisite slavour. * How great soever the reputation of the wines, made in the consulate of Opimius might be, or in that of Anicius, for the latter were much cried up, Cicero set no such great value upon them; and above an hundred years before Pliny writes, he found them too old to be supportable.

Greece and Italy, which were diffinguished in so many other respects, were particularly so, by the excellency of their wines.

In Greece, besides many others, the wines of Cyprus, Lesbos, and Chio, were much celebrated. Those of Cyprus are in great esteem to this day. † Horace often mentions those of Lesbos, and represents them as very wholesome and agreeable. But Chio carried it from all the other countries, and Athen.1.1. eclipsed their reputation so much, that the inhabi- P. 26, 32. tants of that island were thought to be the first who planted the vine, and taught the use of it to other nations. ‡ All these wines were in so great esteem, and of so high a price, that at Rome, so late as to the in-

^{*} Atqui eæ notæ sunt optimæ credo; sed nimia vetustas nechabet eam, quam quærimus, suavitatem, nec est sanè jam tolerabilis. Cic. in Brut. n. 287.

[†] Hic innocentis pocula Lesbii

Duces sub umbra,

Beneath the shade you here may dine,

And quaff the harmless Lesbian wine.

[†] Tanta vino Græco gratia erat, ut fingulæ portiones in convictu darentur.—L. Lucullus puer apud patrem nunquam lautum convivium vidit, in quo plus femel Græcum vinum daretur. Plin. ex. Varro, l. 14. c. 14.

fancy of Lucullus, in their greatest entertainments they drank only one cup of them at the end of the feast. Their prevailing qualities were sweetness and a delicious slavour.

Plin. l. 14.

Pliny was convinced, that the libations of milk instituted by Romulus, and Numa's prohibition to honour the dead by pouring wine upon the funeral pile, were proofs that in those days vines were very scarce in Italy. They increased considerably in the following ages; and it is very probable, the Romans were obliged to the Greeks, whose vines were in high repute, on that account; as they were, in process of time also, for their taste for arts and sciences. It was * the wines of Italy, in the times of Camillus, that brought the Gauls again thither. The charms of that liquor, which was entirely new to them, were powerful attractions to induce them to quit their country.

Two thirds of all the places famed for the goodness of wine were in Italy. + The antient custom of that country, which it still retains, was to fasten their ‡ vines to trees, and especially to the poplar, to the tops of which they projected their slender circling-branches: this had a very sine effect, and was a most agreeable object to the eye. In several

places they made use of props as we do.

1. 5. n. 33.

† In Campano agro vites populis nubunt, maritosque complexæ atque per ramos earum procacibus brachiis geniculato cursu scandentes, cacumina æquant. Plin. 1. 14. c. 1.

† From this custom three elegant expressions in Horace take birth, all derived from the same metaphor. He says, he marries the trees to the vines. Epod. 2.

Ergo aut adulta vitium propagine Altas maritat populos.

He calls the fame trees widowers, when the vines are no longer fastened to them. Od. 5. 1. 4. Aut vitem viduas ducit ad arbores. And gives the name of batchelors to the trees which never had the vine annexed to them: Platanusque calebs evincet ulmos. Od. 15. 1.2.

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^{*} Eam gentem (Gallorum) traditur fama, dulcedine frugum, maximéque vini nova tum voluptate captam, Alpes transiffe. Liv.

The country of Capua alone supplied them with the Maffic, * Calenian, Formian, Cæcuban, and Falernian, fo much celebrated by Horace. It must be allowed, that the goodness of the soil, and the happy fituation of all those places, contributed very much to the excellency of these wines; but we must also admit, that they owed it more to the care and industry of the husbandmen, who applied themselves with the utmost attention to the cultivation of the vines. The proof of which is, that in + Pliny's time, which was about an hundred years after Horace, the reputation of these wines, formerly fo famous, was entirely come to nothing, through the negligence and ignorance of the vinedreffers, who, blinded by the hope of gain, were more intent upon having a great quantity, than good wine.

Pliny cites several examples of the extreme dif-Lib. 14. ference which cultivation will produce in the same c. 3. land. Amongst others, he tells us of a celebrated Grammarian, who lived in the reign of Tiberius and Claudius, and purchased a vineyard at a small price, which had long been neglected by its antient masters. The extraordinary care he took of it, and the peculiar manner in which he cultivated it, occasioned a change in a few years, that seemed little less than a prodigy; ad vix credibile miraculum perduxit. So wonderful a success, in the midst of other vineyards, which were almost always barren, drew upon him the envy of all his neighbours;

* Cæcubum, & prælo domitam Caleno-Tu bibes uvam: mea nec Falernæ Temperant vites, neque Formiani Pocula colles.

Cacubus and Calenum join
To fill thy bowls with richest wine:

Ny humble cups do not produce The Formian or Falernian juice. Od. 20. 1. 1.

who,

[†] Quod jam intercidit incuria coloni—Cura, culturaque id contigerat. Exoluit hoc quoque culpa (Vinitorum) copiæ potius quam bonitati studentium. Plin. 1. 14. c. 6.

who, to cover their own floth and ignorance, ac-

cused him of magic and forcery.

Athen.l.1. p. 26.

Amongst the vines of Campania, which I have mentioned, the Falernian was in great vogue. It was very strong and rough, and was not to be drank till it had been kept ten years. To soften that roughness, and qualify its austerity, they made use of honey, or mingled it with Chio, and by that mixture made it excellent. This ought, in my opinion, to be ascribed to the refined and delicate taste of those voluptuous Romans, who, in the latter times, spared nothing to exalt the pleasures of the table, by whatever was most agreeable, and most capable of gratifying the senses. There were other Falernian wines more temperate and soft, but not so much esteemed.

Athen.
1. 10.
P. 429.

The antients, who fo well knew the excellency of wine, were not ignorant of the dangers attending too free an use of it. I need not mention the law of Zaleucus, by which the Epizephyrian Locrians were univerfally forbid the use of wine upon pain of death, except in case of sickness. The inhabitants of Marfeilles and Melitus shewed more moderation and indulgence, and contented themselves. with prohibiting it to women. At * Rome in the early ages, young persons of liberal condition were not permitted to drink wine till the age of thirty; but as for the women, the use of it was absolutely forbid to them; and the reason of that prohibition was, because intemperance of that kind might induce them to commit the most excessive crimes. Seneca complains bitterly, that this custom was almost universally violated in his times. The + weak and delicate complexion of the women, fays

+ Non minus, pervigilant, non minus, potant; & mero viros provocant.

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^{*} Vini usus olim Romanis sominis ignotus suit, ne scilicet in aliquod dedecus prolaberentur: quia proximus a libero patre intemperantize gradus ad inconcessam venerem esse consuevit. Val. Max. 1. 1. c. 1.

he, is not changed; but their manners are changed, and no longer the fame. They value themselves upon carrying excess of wine to as great an height as the most robust men. Like them they pass whole nights at tables, and, with a full glass of unmixed wine in their hands, they glory in vying with them, and, if they can, in overcoming them.

The emperor Domitian passed an edict in rela-Sueton. in tion to wine, which seemed to have a just founda-Domit. One year having produced abundance of c. 7. wine, and very little corn, he believed they had more occasion for one than for the other, and therefore decreed, that no more vines should be planted in Italy; and that, in the provinces, at least one half of the vines should be rooted up. Philostra- Philost. tus expresses himself, as if the decree ordained, that vit. Apolthey should all be pulled up, at least in Asia; be- c. 7. cause, says he, the seditions, which arose in the cities of that province, were attributed to wine. All Afia deputed Scopelianus to Rome upon that occasion, who professed eloquence at Smyrna. He fucceeded fo well in his remonstrances, that he obtained not only, that vines should continue to be cultivated, but that those who neglected to do so, should be laid under a fine. It is believed, that his sucton. in principal motive for abolishing his edict was the Domitian, dispersing of papers with two Greek verses in them, fignifying, that, let him do what he would, there would still remain wine enough for the facrifice, in which an emperor should be the offering.

I feems, however, fays Mr. Tillemont, that his edict sublisted throughout the greatest part of the west to the reign of Probus; that is, almost two hundred years. That emperor, who after many wars had established a solid peace in the empire, employed the troops in many different works, useful to the public; to prevent their growing enervated through floth, and that the foldier might not eat his pay without deferving it. So that as Han-

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nibal had formerly planted the whole country of Africa with olive-trees, lest his soldiers, for want of something to do, should form seditions; Probus, in like manner, employed his troops in planting vines upon the hills of Gaul, Pannonia, Mæsia, and in many other countries. He permitted in general the Gauls, Pannonians, and Spaniards, to have as many vines as they thought sit; whereas, from the time of Domitian, that permission had not been granted to any nation of the world.

SECT. II.

Produce of the vines in Italy in Columella's time.

TO EFORE I conclude this article upon vines, I cannot omit extracting a passage of Columella, which explains what profit was made of them in his time. He enters, for this purpose, into a detail, which feemed fufficiently curious to me, and makes an exact calculation of the expence and produce of a vineyard of feven acres. His design is to prove, that the cultivation of vines is more beneficial than any other kind of husbandry, and than that of corn itself. That might be true in his times, but it is not fo in ours, at least in the general opinion. This difference arises, perhaps, from the various accidents, to which the vine is subject in France, frosts, rains, blights, which are not fo much to be apprehended in hot countries. To these may be added the high price of casks in plentiful years, which swallows up the greatest part of the vine-dreffer's profit; and the customs, which very much diminish the price of wines. Even amongst the antients, all were not of Columella's opinion. * Cato, indeed, gave vines the first rank,

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^{*} Cato quidem dicit [primum agrum effe] ubi vineæ possunt esse bono vino & multo—Alii dant primatum bonis pratis—Vineam sunt qui putent sumptu fructum devorare. Varr. de re rustic. 1. 1. 6. 7, 8.

but those only which produced the most excellent liquor, and in great abundance. With the same conditions we still think in the same manner. Many gave the preserence to pasture lands; and their principal reason was, that the charges in the culture of vines were almost equal to their produce.

I. The charges necessary for seven acres of vines.

These are,	livres.
1. For the purchase of a flave, whose la- bour sufficed for the cultivation of seven	po E
acres of vines, eight thousand sestertii 2. For a land of seven acres, seven thousand	1000
festertii — — — — — — — — — — — — — — — — — —	875
pences for seven acres, fourteen thou- fand sestertii	1750
These three sums, added together, amount to twenty-nine thousand sessertii —	3625
4. For the interest of the aforesaid sum of twenty-nine thousand sesterii for two years, during which the land does not	
bear, and the money lies dead, three thousand four hundred and fourscore	ever, ri Gellera
festertii — — — — — — — — The total of the expence amounts to thirty-	486
two thousand, four hundred and eighty	e scodi
festertii — — — — —	4060

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II. Produce of seven acres of vines.

The yearly produce of feven acres of vines is fix thousand three hundred sefterces: that is, seven hundred fourscore and seven livres ten sols. Of which what follows is the proof.

The Culeus is a measure which contains twenty amphora, or forty urna. The Amphora contains twenty-fix quarts, and somewhat more. The Culeus,

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in consequence, contains five hundred and twenty quarts, which make two hogsheads of the Paris

measure, wanting fifty-fix quarts.

The lowest value of the Culeus is three hundred sestertii; that is to say, thirty seven livres ten sols. The least produce of each acre was three Culei, which were worth nine hundred festertii, * or an hundred and twelve livres ten fols. The feven acres therefore produced a profit of fix thousand three hundred festertii, which make seven hundred fourfcore and feven livres ten fols.

The interest of the total expence, which is thirtytwo thousand four hundred and fourscore sestertii, that is, four thousand and fixty livres; this interest, I say, at six per cent. per annum, amounts to one thousand, nine hundred and forty-four sestertii, or fomething more, or two hundred and forty three livres. The interest of the same sum, arising from the annual produce of a vineyard of feven acres, is fix thousand three hundred sestertii; that is, seven hundred fourscore and seven livres ten pence. From whence may be feen, how much the latter interest exceeds the former, which was, however, the common interest of money. This is what Columella would prove.

profit arising from Layers. The layer is a young shoot or branch of a vine, which is set in the earth, where it takes root in order for the propagation of the plant. Each acre produced yearly ten thousand of these layers at least, which fold for three thousand

Besides this produce, Columella reckons another

2431.

7871.

Vivi radices.

festertii, or three hundred and seventy-five livres. The layers produced therefore from the feven acres, twenty-one thousand sestertii, or two thousand six hundred and twenty livres. Columella computes the produce of these layers at the lowest value; for

^{*} Columella observes, that each acre of Seneca's vineyards produced eight Culei, 1. 3. c. 3. And Varro, that in many places an acre produced from ten to fificen, 1. 1. c. 2.

as to h m elf, he affures us, his own vineyards produced regularly twice as much. He speaks only of the vines of Italy, and not of those of other provinces.

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Adding the produce of the wine to that of the plants or layers, the profit upon feven acres of vines amounted to three thousand four hundred livres.

The produce of these layers, unknown to our vine-dressers, proceeded, no doubt, from the vines being very rare in a great number of provinces; and, the reputation of the vines of Italy having spread universally, people came from all parts to buy those layers, and to enable themselves, by their means, to plant good vineyards in places which had none before, or which had only such as were indifferent.

ARTICLE IV.

Of the breeding of cattle.

Have faid, that the breeding of cattle is a part of agriculture. It certainly is an effential part of it, not only because cattle, from the abundance of the dung, supply the earth with the manure, which is necessary to the preservation and renovation of its vigour, but because they share with man in the labours of husbandry, and spare him the greatest part of the toil. * Hence it was that the ox, the laborious companion of man in tilling the ground, was so highly considered by the antients, that whoever had killed one of them, was punished with death, as if he had killed a citizen; no doubt, because he was esteemed a fort of murtherer of the human race, whose nourishment and life stand in absolute need of the aid of this animal.

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^{*} Bos laboriosissimus hominis socius agricultura cujus tanta suit apud antiquos veneratio, ut tam capitale esset bovem necesse quam civem. Colum. in præf. 1. 6.

The * farther we look back into antiquity, the more we are affured, that in all nations the breeding of cattle produced considerable revenues, without speaking of Abraham, whose numerous family of domestics shews the multitude of his slocks and herds, or of his kinsman Laban; the holy Scripture observes, that the greatest part of Job's riches consisted in cattle; and that he possessed seven thousand sheep, three thousand camels, sive hundred yoke of oxen, and sive hundred she-asses.

It was by this the land of Promise, though of very moderate extent, enriched its princes, and the inhabitants of the country, whose numbers were incredible, amounting to more than three millions

of fouls, including women and children.

We read that Ahab, king of Israel, imposed an annual tribute upon the Moabites, whom he had conquered, of an hundred thousand sheep. How much must this number have multiplied in a short time, and what abundance occasioned throughout the whole country!

the whole country!

The holy Scripture, in representing Uzziah as a prince accomplished for every part of a wise government, does not fail to inform us, that he had a great number of husbandmen and vineyards, and that he fed abundance of cattle. He caused great inclosures to be made in the countries, and vast houses for fothering the slocks and herds, with lodges, fortified with towers, for the shepherds to retire to with their slocks, and to secure them against irruptions; he also took care to have great numbers of cisterns cut for watering the slocks; works not so splendid, but no less estimable than the most superb palaces. It was, without doubt, the particular protection, which he gave to all who were employed in the cultivation of lands, or the

breeding

2 Kings

iii. 4.

Job i. 3.

2 Chron.

^{*} In rusticatione vel antiquissima est ratio pascendi, eademque & questwohisma. Ibid.

breeding of cattle, that rendered his reign one of the most opulent Judæa had ever seen. And he did thus, faith the Scripture, because be loved bufbandry: Erat enim homo agriculturæ deditus. The text is still stronger in the Hebrew; quia diligebat terram, because be loved the ground. He took delight in it; perhaps cultivated it with his own hands; at least, he made husbandry honourable, he knew all the value of it, and was sensible that the earth, manured with diligence and skill, was an affured fource of riches both to the prince and people; he therefore thought attention to husbandry one of the principal duties of the fovereignty, though often the most neglected.

The Scripture fays also of the holy King Hezekiah, Moreover be provided bim cities and possessions of 2 Chron. flocks and berds in abundance, for God bad given bim xxxii. 29. substance very much. It is easy to conceive, that the shearing of sheep alone, without mentioning other advantages from them, could not but produce a very confiderable revenue in the country, where an almost innumerable multitude were continually fed. And hence we find, that the time for shearing of sheep was a season of festivity and rejoicing.

Amongst the antient Pagans, the riches of the kings confifted in cattle; as we find from Latinus. in Virgil, and Ulysses in Homer. It was the same amongst the Romans, who, by the antient laws,

did not pay fines in money, but in oxen and sheep.

We must not be surprised, after having considered the great advantages produced by the breeding and feeding of cattle, that so wise a man as Varro has not disdained to give us an extensive account of all the beafts that are of any use to the country, either for tillage, breed, or for carriage, and the other conveniencies of man. He speaks first of small cattle, sheep, goats, and hogs: greges. He proceeds next to the large beafts, oxen, affes, horses, and camels: armenta. And he concludes with fowl, DA

Columel. præf. 1. 6. fowl, which may be called domestic animals, villatice pecudes; pigeons, turtle-doves, fowls, geese, and many others. Columella enters into the tame detail; and Cato the censor runs over part of it. The latter, upon being asked what was the surest and shortest method to enrich a country, replied, the feeding of cattle, which is attended with an infinity of advantages to those who apply themselves to it with diligence and industry.

to it with diligence and industry.

And, indeed, the beafts, that labour in the field, render mankind continual and important fervices; and the advantages he reaps from them, do not conclude even with their lives. They share with him, or rather spare him the most laborious part of the work, without which the earth, however fruitful in itself, would continue barren, and not produce him any increase. They serve him in bringing home with safety into his house, the riches he has amassed without doors, and to carry him on his journies. Many of them cover his table with milk, cheese, wholesome food, and even the most exquisite dishes; and supply him with the rich materials of the stuffs he is in want of for cloathing himself, and with a thousand other conveniencies of life.

We fee, from what has been said hitherto, that the country covered with corn, wine, slocks, and herds, is a real Peru to man, and a much more valuable and estimable one, than that from whence he extracts gold and silver, which, without the other, would not preserve him from perishing with hunger, thirst, and cold. Placed in the midst of a fertile territory, he beholds around him at one view all his riches; and, without quitting his little empire, he finds immense and innocent treasures within his reach. These he regards, no doubt, as gifts from the liberal hand of that supreme Master, to whom he is indebted for all things; but he regards them also as the fruits of his own labour, and that renders them still more grateful

to him.

SECT. V.

Innocency and pleasure of a rural life, and of agriculture.

HE revenues and profits which arise from the culture of lands, are neither the fole, nor the greatest advantage accruing from it. All the authors, who have wrote upon * rural life, have always spoken of it with the highest praises, as of a wife and happy state, which inclines a man to justice, temperance, fobriety, fincerity, and, in a word, to every virtue; which in a manner shelters him from all passions, by keeping him within the limits of his duty, and of a daily employment, that leaves him little leifure for vices: luxury, avarice, injustice, violence, and ambition, the almost infeparable companions of riches, take up their ordinary residence in great cities, which supply them with the means and occasions: the hard and laborious life of the country does not admit of these vices. This gave room for the poets to feign, that Astræa, the goddess of justice, had her last residence there, before the intirely quitted the earth.

We see in Cato the form of a prayer used by the country-people, wherein may be discerned the precious tokens of the antient tradition of men, who attributed every thing to God, and addressed themselves to him in all their temporal necessities, because they knew he presided over all things, and that all things depended on him. I shall repeat a good part of it, and hope it will not be unaccep-

^{*} In urbe luxuries creatur: ex luxuria existat avaritia necesse est: ex avaritia erumpat audacia: inde omnia scelera gignuntur— In rusticis moribus, in victu arido, in hac horrida incultaque vita istiusmodi malesicia gigni non solunt—Cupiditates porro quæ possunt esse in eo, qui ruri semper habitarit, & in agro colendo vixerit? Quæ vita maximè disjuncta a cupiditate, & cum ossicio conjuncta—Vita autem rustica parsimoniæ, diligentiæ, justitiæ, magistra est. Cic. pro Rosc. Amer. n. 39. & 75.

table. It is in a ceremony, called Solitaurilia, and, according to some, Suovetaurilia, in which the country-people made a procession round their lands, and offered libations and facrifices to certain gods.

" Father Mars, faid the suppliant, I humbly " implore and conjure you to be propitious and " favourable to me, my family, and all my do-" mestics, in regard to the occasion of the present " procession in the fields, lands, and estate: To or prevent, avert, and remove from us all diseases "known and unknown, desolations, storms, cala-" mities, and pestilential air: to make our plants, " corn, vines, and trees, grow and come to per-" fection: to preserve our shepherds and stocks: "To grant thy preservation of life and health to " me, my family, and all my domestics." What a reproach is it that. Christians, and often those who have the greatest share in the goods of this world, should in these days be so little careful to demand them from God, and be ashamed to thank him for them! Amongst the Pagans all their meals began and ended with prayers, which are now banished from almost all our tables.

Columel. J. 1. c. 8.

Columella enters into a detail upon the duties of the master or farmer, in regard to his domestics, which feems full of reason and humanity. "Care " ought to be taken, fays he, that they are well " clad, but without finery: that they are defended " against the wind, cold, and rain. In directing them, a * medium should be observed between " too great indulgence and excessive rigour, in order to make them rather fear, than experience, " feverities and chastifements; and they should be " prevented from doing amiss by diligence, and " their master's presence: for good conduct con-" fifts in preventing, inftead of punishing, faults. Ibid. 1. 12. " When they are fick, care should be taken, that

^{*} The lands were cultivated by flaves.

they are well tended, and that they want for nothing; which is the certain means to make

"their business grateful to them." He recommends also the same usage of slaves, who often worked laden with chains, and who were generally

treated with great rigour.

What he fays, with regard to the mistress of a Colum. in country-family, is very remarkable: Providence, præf. l. 32. in uniting man and woman, intended they should be a mutual support to each other, and for that reason assigned to each of them their peculiar functions. The man, defigned for business without doors, is obliged to expose himself to heat and cold; to undertake voyages by fea, and journeys by land; to support the labours of peace and war; that is, to apply himself to the works of the field, and in carrying arms: all exercises which require a body robuit, and capable of bearing fatigues. The woman, on the contrary, too weak to fustain these offices, is referved for affairs within doors. The care of the house is confided to her; and as the proper qualities for her employment- are attention and exactness, and as fear renders us more exact and attentive, it was necessary that the woman should be more timorous. On the contrary, because the man acts and labours almost always without doors, and is often obliged to defend himself against injuries, God has infused into him boldness and courage. Hence * in all ages, both amongst the Greeks and Romans, the government of the house devolved upon the women, that their husbands, after having transacted their business abroad, might return to their houses free from all cares, and find a perfect tranquillity at home.

^{*} Nam & apud Græcos, & mox apud Romanos usque in patrum nostrorum memoriam, fere domesticis labor matronalis fuit, tanquam ad requiem forensium exercitationum omni cura deposita patribus-familias intra domesticos penates recipientibus.

This is what Horace describes so elegantly in one of his odes *, which Dryden translates thus:

But if a chaste and pleasing wife,
To ease the bus'ness of his life,
Divides with him his boushold care,
Such as the Sabine matrons were,
Such as the swift Apulian's bride.
Sun-burnt and swarthy though she be,
Will fire for winter's nights provide,
And without noise will oversee
His children and his family;
And order all things till be come,
Sweaty, and over-labour'd, home;
If she in pens his slock will fold,
And then produce her dairy store,
And wine to drive away the cold,
And unbought dainties of the poor, &c.

The antients seem to have excelled themselves in treating this on subject, so many fine thoughts and beautiful expressions it supplies. Mr. Rollin gives bere a prose translation of the passage at bottom, in the Georgics; which, it was conceived, would be no less agreeable in Mr. Dryden's Version:

† O bappy, if he knew his happy state, The swain, who, free from bus'ness and debate, Receives

Quod fi pudica mulier in partem juvet
Domum atque dulces liberos,
(Sabina qualis aut perusta solibus
Pernicis uxor Appuli)
Sacrum vetustis extruat lignis focum
Lassi sub adventum viri;
Claudensque textis cratibus lætum pecus,
Distenta siccet ubera,
Et horna dulci vina promens dolio,
Dapes inemptas apparet, &c.

Hor. Ep. 2.

† O fortunatos nimium, sua si bona nôrint, Agricolas! quibus ipsa, procul discordibus armis,

Fundit

OF AGRICULTURE.

Receives his easy food from nature's hand, And just returns of cultivated land.

No palace, &c. But easy, quiet, a secure retreat, A harmless life, that knows not bow to cheat, With home-bred plenty the rich owner bless, And rural pleasures crown bis bappiness. Unvex'd with quarrels, undisturb'd with noise. The country-king his peaceful realm enjoys: Cool grots, and living lakes, the flow'ry pride Of meads, and streams, that thro' the valleys glide: And shady groves, that easy sleep invite, And, after toilsome days, a soft repose at night. Wild beafts of nature in his woods abound, And youth, of labour patient, plough the ground, Inur'd, to bardship, and to bomely fare. Nor venerable age is wanting there In great examples to the youthful train: Nor are the Gods ador'd with rites prophene. From bence Astræa took ber flight, and bere The prints of her departing steps appear. Georg. Lib. II. 1. 439.

The fine description Cicero gives us, in his essay upon old-age, of the manner in which corn and grapes gradually arrive at perfect maturity, shews his taste for a country life, and instructs us, at the same time, in what manner we ought to consider those wonderful productions, that merit our admiration no less from their being common and

Fundit humo facilem victum justissima tellus.
Si non, &c.
At secura quies, & nescia fallere vita,
Dives opum variarum; at latis otia fundis,
Speluncæ, vivique lacus; at frigida Tempe,
Mugitusque boum, mollesque sub arbore somni
Non absunt: illic saltus ac lustra ferarum,
Et patiens operum, parvoque assueta juventus,
Sacra Deûm, sanctique patres. Extrema per illos
Justitia excedens terris vestigia fecit.

Virg. Georg. L. 2. annual.

annual. And, indeed, if a fimple description gives so much pleasure, what effect, in a mind rationally curious, ought the reality itself to have, and the actual view of what passes in vines and fields of corn, till the fruits of both are brought in and laid up in cellars and barns? And as much may be said of all the other riches, with which the earth annually cloaths herself.

This is what makes residence in the country so agreeable and delightful, and so much the defire of magistrates and persons employed in serious and important affairs. Tired and fatigued with the continual cares of the city, they naturally cry out with Horace: * " O country, when shall I see you? When will it be allowed me to forget, in thy " charming retreats, my cares and folicitude, either " in amusing myself with the books of the antients, " or enjoying the pleasure of having nothing to " do, or repoling myself in fweet slumber?" The purest pleasures, are no doubt, to be found there. The country feems, according to the happy expreffion of the same poer, to + restore us to ourselves, in relieving us from a kind of flavery, and in placing us where we may justly be faid to live and We enter, in a manner, into a conversation with the trees and plants; we question them; we make them give us an account of the fruits they

O rus, quando ego te aspiciam, quandoque licebit
Nunc veterum libris, nunc somno, & inertibus horis,
Ducere sollicitæ jucunda oblivia vitæ?

O rural scenes, and O serene abodes,
Wherein we seem to emulate the gods,
When, woid of care, of passion, and of strife,
And all the busy ills of tedious life,
With you my happy hours shall I employ
In sweet wicissitudes of rest and joy,
In books that raise the Soul, and learned ease,
In sleep, in leisure, and in what I please?

Paraph.

† Vilice sylvarum, & mihi me reddentis agelli.

Hor. Ep. 14. 1. 1.

Vivo & regno, simul ista reliqui, &c.

Hor. Ep. 10. l. 1. produce,

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produce, and receive fuch excuses as they have to make, when defective in bearing*: alledging sometimes the great rains, sometimes excessive heats, sometimes the severity of the cold. It is Horace

who lends them this language.

All I have faid fufficiently implies, that I fpeak no longer of that painful and laborious tillage, to which man was at first condemned: but that I have another in view, intended for his pleasure, and to employ him with delight; an employment perfectly conformable to his original institution, and the defign of his Creator, as it was commanded Adam immediately after his formation. In effect, it feems to suggest to us the idea of the terrestrial paradife, and to partake, in fome measure, of the happy simplicity and innocence which reigned there. find that in all times, it has been the most grateful amusement of princes, and the most powerful kings. Without mentioning the famous hanging gardens, with which Babylon was adorned, the Scripture informs us, that Ahasuerus (Darius, son of Darius Hystaspes) had planted part of the trees of his garden, and that he cultivated it with his own royal hands: Justit convivium praparari in Esther i. 5. vestibulo horti & nemoris, quod regio cultu & manu consitum erat. [I do not find the latter part of this text in the English Bible.] We have said, that Cyrus the younger answered Lysander, who admired the beauty, œconomy, and disposition of his gardens, that himself had drawn the plan, laid them out, and planted many of the trees with his own hands: Ego omnia ista sum dimensus: mei sunt ordines, mea Cic. de descriptio: multæ etiam istarum arborum mea manu sunt Senec. tut. Sata.

^{*} Fundusque mendax, arbore nunc aquas
Culpante, nunc torrentia agros
Sidera, nunc hiemes iniquas.
When the land fails, and in its fruits,
Against the show'ry skies imputes,
Or the whole blame with equal reason casts
On summer's sultry suns, or winter's fatal blasts.

We should never be willing to quit so delightful a residence, were it possible for us to possess it always; and have endeavoured, at least for our confolation, to impose a kind of illusion upon ourfelves, by transporting the country in a manner into the midst of cities; not a simple and almost wild country, but a trimmed, laid out, embellished, I had almost said, painted country. I mean those adorned and elegant gardens, which prefent fo grateful and fplendid a view to our eyes. What beauty, riches, abundance, variety of fweets, colours and objects! To fee * the invariable constancy and regularity of flowers, in succeeding each other, (and as much may be faid of fruits) one would think that the earth, attentive to pleafing its mafter, endeavours to perpetuate her prefents, by continually paying him the new tributes of every feason. What a throng of reflexions does not this suggest to a curious, and still more to a religious, mind!

Pliny, after having confessed, that no eloquence was capable of expressing duly the incredible abundance and wonderful variety of the riches and beauties, which nature seems to spread with complacency and delight throughout gardens, adds a very just and instructive remark. + He observes upon the difference nature has made, as to the duration of trees and flowers. To the trees and plants designed for the nourishment of man with their fruits, and for the structure of ships and edifices, she has granted years, and even ages of time. To showers and sweets, which serve only for pleasure, she has given only some moments and days of life;

^{*} Sed illa quanta benignitas naturæ, quod tam multa ad vescendum, tam varia, tamque jucunda gignit; neque ea uno tempore anni, ut semper & novitate delectemur, & copia. Cic. de nat. deer.

[†] Quippe reliqua usus alimentique gratia genuit: ideoque secula annosque tribuit iis. Flores vero odoresque in diem gignit: magna, ut palam est, admonitione hominum, quæ spectatissimò floreant celerrime marcessere. Plin. 1. 2. c. 1.

as if she intended to admonish us, that what is most shining and splendid soonest fades, and passes away with rapidity. Malherbe expresses this latter thought in a very lively manner, where he deplores the death of a very young and beautiful person:

Et rose ella a vecu ce qui vivant les roses, L'espace d'un matin. And liv'd a rose, as roses live, A fingle morning's space.

It is the great advantage of agriculture to be more strictly united with religion and also moral virtue, than any other art; which made Cicero fay, as we have feen, that a country life came nearest to that of the wife man; that is, it was a kind of

practical philosophy.

To conclude this small treatise where I began it, it must be confessed, that, of all human employments, which have no immediate relation to God and justice, the most innocent is agriculture. It was, as has been faid, that of the first man in his state of innocence and duty. It afterwards became part of the penance imposed on him by God. So that, both in the states of innocence and sin, * it was commanded to him, and in his person to all his descendants. It is, however, become, in the judgment of pride, the meanest and most contemptible of employments: and, whilst useless arts, which conduce only to luxury and voluptuoufnefs, are protected and honoured, all those who labour for the welfare and happiness of others are abandoned to poverty and mifery. It is the second

Man res violentifferen erwat germit, terum mod cationed

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Hate not laborious work, nor the husbandry, which the most High hath created. Ecclefiast. vii. 15.

away with a pidtry. Distinctor extents this latter though in a. Hry R B T P. A. H O he had eracted the desire of a very young and beautiful perform

OF COMMERCE.

ARTICLEL

La la el pace d'un mani

Excellency and advantages of commerce.

T may be faid, without fear of being suspected of exaggeration, that commerce is the most solid foundation of civil fociety, and the most neceffary principle to unite all men, of whatever country or condition they are, with each other, By its means the whole world is but one city, and one family. It is the fource of univerfal plenty to every part of it. The riches of one nation become those of all people, and no country is barren, or at least sensible of its sterility. All its necessities are provided for in time from the extremities of the universe; and every region is amazed to find itself abound in foreign productions, and inriched with a thousand commodities, unknown to itself, and which however compose all that is most agreeable in life. It is by the commerce of the fea and rivers, that is to fay, by navigation, that God has united all mankind amongst themselves in so wonderful a manner, by teaching them * to direct and govern the two most violent things in nature, the sea and the winds, and to substitute them to their uses and occasions. He has joined the most remote people by this means, and preserved, amongst the different nations, an image of the dependance he has or-

^{*} Quas res violentissimas natura genuit, earum moderationem nos soli habemus, maris atque ventorum, propter nauticarum rerum scientiam. Cic. de Nat. deor. l. 2. p. 15.

dained in the several parts of the same body by the veins and arteries.

This is but a weak, a flight idea, of the advantages arifing from commerce to fociety in general. With the least attention to particulars, what wonders might we not discover? But this is not the proper place for such inquiries. I shall confine myself to one reflection, which seems very proper for our understanding at once the weakness and

grandeur of man.

I shall consider him at first in the highest degree of elevation to which he is capable of attaining. I mean upon the throne: lodged in superb palaces; furrounded with all the splendor of the royal dignity; honoured and almost adored by throngs of courtiers, who tremble in his presence; placed in the centre of riches and pleasures, which vie with each other for his favour; and supported by numerous armies, who wait only to obey his orders. Behold the weight of human greatness! But what becomes of this fo powerful, fo awful, prince, if commerce happens to cease on a sudden; if he is reduced to himfelf, to his own industry and perfonal endeavours? Abandoned to himself in this manner; divested of that pompous outfide, which is not him, and is absolutely foreign to his perfon; deprived of the support of others, he falls back into his native mifery and indigence; and, to fum up all in a word, he is no longer any thing.

Let us now confider man in a mean condition, inhabiting a little house; reduced to subsist on a little bread, meat, and drink; covered with the plainest cloaths; and enjoying, in his family, not without difficulty, the other conveniencies of life. What seeming solitude, what a forlorn state, what oblivion seems he in, with regard to all other mortals! We are much deceived, when we think in this manner. The whole universe is attentive to

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him.

him. A thousand hands work for his occasions. and to cloath and nou ish him. For him manufactures are established, granaries and cellars filled with corn and wine, and different metals extracted from the bowels of the earth with fo much danger

and difficulty.

There is nothing, even to the things that minifter to pleasure and voluptuousness, which the most remote nations are not follicitous to transfer to him through the most stormy seas. Such are the supplies, which commerce, or to speak more properly, Divine Providence, always employed for our occasions, continually procures for us all, for each of us in particular: supplies, which to judge aright of them, are, in a manner, miraculous, which ought to fill us with perpetual admiration, and make us cry out with the prophet, in the tranfports of a lively gratitude: O Lord, what is man, that thou art mindful of him, or the son of man that thou vifitest bim? island to all in which

It would be to no purpose for us to say, that we have no obligation for those who labour for us in this manner, because their particular interest puts them in motion. This is true; but is their work therefore of less advantage to us? God, to whom alone it belongs to produce good from evil itself, makes use of the covetousness of some for the benefit of others. It is with this view providence has established so wonderful a diversity of conditions amongst us, and has distributed the goods of life with fo prodigious an inequality. If all men were easy in their fortunes, were rich and opulent, who amongst us would give himself the trouble to till the earth, to dig in the mine, or to cross the feas? Poverty or covetousness charge themselves with these laborious, but useful toils. From whence it is plain, that all mankind, rich or poor, powerful or impotent, kings or subjects, have a mutual dependance upon each other for the demands

mands of life; the poor not being able to live without the rich, nor the rich without the labour of the poor. And it is commerce, subsisting from thele different interests, which supplies mankind with all their necessities, and, at the same time, with all their conveniencies.

ARTICLE II.

Antiquity of commerce. Countries and cities most famed

T is very probable, that commerce is no less antient than agriculture. It begun, as was natural, between private persons, mankind affisting each other with whatfoever they had of useful and necessary to human life. Cain, no doubt, supplied Abel with corn, and the fruits of the earth for his food: and Abel, in exchange, supplied Cain with Ikins and fleeces for his cloathing, and with milk, curds, and perhaps meat for his table. Tubalcain, folely employed in works of copper and iron, for the various uses and occasions of life, and for arms to defend men, either against human enemies or wild beafts, was certainly obliged to exchange his brass and iron works for other merchandise, necesfary to feeding, cloathing, and lodging him. Commerce afterwards, extending gradually from neighbour to neighbour, established itself between cities and adjacent countries, and, after the deluge, enlarged its bounds to the extremities of the world.

The holy Scripture gives us a very antient ex- Gen. ample of traffic by the caravans of the Ishmaelites xxvii. 25. and Midianites, to whom Joseph was fold by his brethren. They were upon their return from Gilead, with their camels laden with spices, aromatic goods, and with other precious merchandise of that country. These they were carrying into Egypt, where there was a great demand for them, occa-

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fioned

fioned by their custom of embalming the bodies of men, after their death, with great care and

expence.

Homer informs us, that it was the custom of the heroic age of the siege of Troy, for the different nations to exchange the things that were most necessary for life with each other; a proof, says Pliny, that it was rather necessity than avarice, that gave birth to this primitive commerce. We read, in the seventh book of the Iliad, that upon the arrival of certain vessels, the troops went in crowds to purchase wine, some with copper, and others with iron, skins, oxen, and slaves.

We find no navigators in history so antient as the Egyptians and Phœnicians. These two neighbouring nations seem to have divided the commerce by sea between them: the Egyptians had possessed themselves chiefly of the trade of the East, by the Red sea; and the Phœnicians of that of the West,

by the Mediterranean.

What fabulous authors fay of Ofiris, who is the Bacchus of the Greeks, that he undertook the conquest of the Indies, as Sesostris did afterwards, makes it probable, that the Egyptians carried on

a great trade with the Indians.

As the commerce of the Phœnicians was much more to the west than that of the Egyptians, it is no wonder that they are more celebrated upon that account by the Greek and Roman authors. Herodotus says, that they were the carriers of the merchandise of Egypt and Assyria, and transacted all their trade for them, as if the Egyptians had not employed themselves in it; and that they have been believed the inventors of trassic and navigation, though the Egyptians have a more legitimate claim to that

Herod. I. 1. c. 1.

banon

Quantum feliciore zvo, cum res ipsz permutabantur inter sese, scut & Trojanis temporibus factitatum Homero credi convenit! Ita enim, ut opinor, commercia victus gratia inventa. Alios coris boum, alios ferro captivisque rebus emptitasse tradit. Plin. 1. 33. c. 1. glory.

glory. Certain it is, the Phænicians distinguished themselves most by antient commerce, and are also a proof to what an height of glory, power, and wealth, a nation is capable of raising itself only by trade.

This people possessed a narrow track of land upon the sea-coast, and Tyre itself was built in a very poor soil; and, had it been richer and more fertile, it would not have been sufficient for the support of the great number of inhabitants, which the e-rly success of its commerce drew thither.

Two advantages made them amends for this defect. They had excellent ports upon the coasts of their small state, particularly that of their capitol; and they had naturally so happy a genius for trade, that they were looked upon as the inventors of commerce by sea, especially of that carried on by

long voyages.

AREV.

The Phoenicians knew fo well how to improve both these advantages, that they soon made themfelves masters of the fea, and of trade. Libanus, and other neighbouring mountains, supplying them with excellent timber for building of vessels, in a little time they fitted out numerous fleets of merchant-thips, which hazarded voyages into unknown regions, in order to establish a trade with them. They did not confine themselves to the coasts and ports of the Mediterranean, they entered the ocean by the streights of Cadiz or Gibraltar, and extended their correspondence to the right and left. As their people multiplied almost infinitely, by the great number of strangers, whom the desire of gain, and the certain opportunity of inriching themselves, drew to their city, they faw themselves in a condition to plant many remote colonies, and particularly the famous one of Carthage, which, retaining the Phænician spirit, with regard to traffic, did not give place to Tyre itself in trading, and furpassed

furpassed it exceedingly by the extent of dominion,

and the glory of military expeditions.

The degree of glory and power, to which commerce and navigation had elevated the city of Tyre, rendered it so famous, that we could scarce believe there is no exaggeration in what profane authors report of it, if the prophets themselves had not spoken of it with still greater magnificence. Tyre, fays Ezekiel, to give us some idea of its power, is a superb vessel. They have made all thy ship-boards of fir trees of Senir; they have taken cedars from Lebanon to make masts for thee. Of the oaks of Bashan bave they made thine oars: the company of the Alburites have made thy benches of ivory, brought out of the isles of Chittim. Fine linnen, with broidered work from Egypt, was that which thou spreadest forth to be thy sail: blue and purple from the isles of Elisha was that which covered thee. The inhabitants of Zidon and Arvad were thy mariners: thy wife men; O Tyrus, that were in thee, were thy pilots. The prophet, by this figurative language, defigns to Thew us the power of this city. But he gives, with more energy, a circumstantial account of the dif--ferent people with whom it traded. The merchandifes of the whole earth feemed to be laid up in this city, and the rest of the world appeared less its allies than tributaries.

Ezekiel, ch. xxvii.

7. 5-10.

The Carthaginians trafficked with Tyre for all forts of riches, and filled its markets with filver, iron, pewter, and lead. Greece, * Tubal and Mefhech, brought it flaves, and vessels of copper. † Togarmah supplied it with horses and mules. ‡ Dedan with elephants teeth and ebony. The Syrians exposed to sale in it pearls, purple, wrought cloaths,

I Dedan. The people of Arabia.

^{*} Tubal and Methech. The boly Scripture always joins these two people. The latter intends Muscouy; the former, without doubt, was its neighbour.

[†] Togarmah, Cappadocia, from whence came the finest borses, of which the emperors reserved the best for their own stables.

lawn, filk, and all forts of precious merchandife. The people of Judah and Israel brought thither the finest wheat, balm, honey, oyl, and fruits. Damascus sent it excellent wine, and wool of the most lively and most exquisite dyes: other people surnished it with iron work, myrrh, the aromatic calamus, and carpets of exquisite workmanship to sit upon. * Arabia, and all the princes of Cedar, brought thither their flocks of lambs, sheep, and goats. + Shebah and Raamah, the most excellent sumes, precious stones, and gold; and others cedar-wood, bales of purple, embroidered cloathing,

and every kind of rich goods.

I shall not undertake to distinguish exactly the fituation of the different nations, of whom Ezekiel fpeaks, this not being the proper place for fuch a disquisition. It suffices to observe, that this long enumeration, into which the holy Spirit has thought fit to descend, with regard to the city of Tyre, is an evident proof, that its commerce had no other bounds than the world, as known at that time. Hence it was considered, as the common metropolis of all nations, and as the queen of the Isaiah paints its grandeur and state in most lively, but very natural, colours, where he fays, that Tyre wore a diadem upon her brows; that the most illustrious princes of the universe were her correspondents, and could not be without her traffic; that the rich merchants, inclosed within her walls, were in a condition to dispute precedency with crowned heads, and pretended, at least, to an equality with them: Who bath taken this Ifa. xxiii. counsel against Tyre, the crowned city, whose merchants 8. are princes, whose traffickers are the honourable of the earth?

* Arabia Deserta, Cedar was near it.

⁺ Shebah and Raamah. People of Arabia Felix. All antiquity men-

I have related elsewhere the destruction of the antient Tyre by Nebuchadonosor, after a siege of thirteen years; and the establishment of the new Tyre, which soon repossessed itself of the empire of the sea, and continued its commerce with more success, and more splendor, than before; till at length, being stormed by Alexander the Great, he deprived it of its maritime strength and trade, which were transferred to Alexandria, as we shall soon see.

Whilst both the old and new Tyre experienced fuch great revolutions, Carthage, the most considerable of their colonies, was become very flourishing. Traffic had given it birth: traffic augmented it, and put it into a condition to dispute the empire of the world for many years with Rome. Its fituation was much more advantageous than that of Tyre. It was equally distant from all the extremities of the Mediterranean sea; and the coast of Africa, upon which it was fituated, a vast and fertile region, supplied it abundantly with the corn necessary to its subsistence. With such advantages those Africans, making the best use of the happy genius for trade and navigation which they had brought from Phœnicia, attained fo great a knowledge of the fea, that in that point, according to the testimony of Polybius, no nation was equal to them. By this means they rose to such an height of power, that in the beginning of their third war with the Romans, which occasioned their final ruin, Carthage had feven hundred thousand inhabitants, and three hundred cities in its dependance upon the continent of Africa only. They had been masters not only of the tract of land extending from the great Syrtes to the pillars of Hercules, but also of that which extends itself from the same pillars to the fouthward, where Hanno, the Carthaginian, had founded fo many cities, and fettled fo many colonies. In Spain, which they had almost

most entirely conquered, Asdrubal, who commanded there after Barca, Hannibal's father, had founded Carthagena, one of the most celebrated cities of those times. Great part also of Sicily and Sardinia

had formerly fubmitted to their voke.

Posterity might have been indebted for great lights to the two illustrious monuments of the navigation of this people, in the history of the voyages of Hanno, stilled King of the Carthaginians, and of Imileo, if time had preserved them. The first related the voyages he had made in the ocean beyond the pillars of Hercules, along the western coast of Africa; and the other his on the western coast of Europe; both by the order of the senate of Carthage. But time has consumed those

writings.

This people spared neither pains nor expences to bring navigation to persection. That was their only study. The other arts and sciences were not cultivated at Carthage. They did not pique themselves upon polite knowledge. They professed neither poetry, eloquence, nor philosophy. The young people, from their infancy, heard of nothing in conversation, but merchandise, accounts, ships, and voyages. Address in commerce was a kind of inheritance in their families, and was the best part of their fortunes; and, as they added their own observations to the experience of their fathers, we ought not to be surprised, that their ability in this way always increased, and made such a wonderful progress.

Hence it was that commerce raised Carthage to so high a degree of wealth and power, that it cost the Romans two wars; the one of twenty-three, and the other of seventeen, years, both bloody and doubtful, to subdue that rival; and that at last victorious Rome did not believe it in her power to subject her enemy entirely, but by depriving her of the resources she might still have found in

trade:

trade; and which, during fo long a feries of years, fupported her against all the forces of the republic.

Carthage had never been more powerful by fea, than when Alexander besieged Tyre, the metropolis of her people. Her fortune began to decline from that time. Ambition was the ruin of the Carthaginians. Their being weary of the pacific condition of merchants, and preferring the glory of arms to that of traffic, cost them dear. Their city, which commerce had peopled with fo great a multitude of inhabitants, faw its numbers diminish to fupply troops, and recruit armies. Their fleets, accustomed to transport merchants and merchandife, were no longer freighted with any thing; but munitions of war and foldiers; and, out of the wifeft and most successful traders, they elected officers and generals of armies, who acquired them an exalted degree of glory indeed, but one of fhort duration, and foon followed with their utter ruin.

The taking of Tyre by Alexander the Great, and the founding of Alexandria, which foon followed, occasioned a great revolution in the affairs of commerce. That new settlement was, without dispute, the greatest, the most noble, the wifest, and the most useful design that conqueror ever

formed.

It was not possible to find a more happy situation, nor one more likely to become the mart for all the merchandise of the east and west. That city had on one side a free commerce with Asia, and the whole East by the Red sea. The same sea, and the river Nile, gave it a communication with the vast and rich countries of Ethiopia. The commerce of the rest of Africa and Europe was open to it by the Mediterranean; and, for the inland trade of Egypt, it had, besides the navigation of the Nile, and the canals cut out of it, the assistance of the caravans, so convenient for the security

curity of merchants, and the conveyance of their effects.

This induced Alexander to believe it a proper place for founding one of the finest cities and ports in the world. For the isle of Pharos, which at that time was not joined to the continent, supplied him with the happiest situation, after he had joined them by a mole, having two entrances, in which the vessels of foreign nations arrived from all parts, and from whence the Egyptian ships were continually sailing to carry their factors, and commerce, to all parts of the world then known.

Alexander lived too short a time to see the happy and sourishing condition, to which commerce raised his city. The Ptolomies, to whose share, after his death, Egypt fell, took care to improve the growing trade of Alexandria, and soon raised it to a degree of perfection and extent, that made Tyre and Carthage be forgotten, which, for a long series of time, had transacted, and engrossed to themselves, the commerce of all nations.

Of all the kings of Egypt, Ptolomæus Philadelphus was the prince who contributed most to the bringing of commerce to perfection in his country. For that purpose he kept great sleets at sea, of which Athenæus gives us the number, and de- Athen.1.5. scription, that cannot be read without astonish. P. 203. ment. Besides upwards of six-score sail of galleys of an extraordinary fize, he gives him more than four thousand other ships, which were employed in the service of the state, and the improvement of trade. He possessed a great empire, which he had formed, by extending the bounds of the kingdom of Egypt into Africa, Ethiopia, Syria, and beyond the sea, having made himself master of Cilicia, Pamphylia, Lycia, Caria, and the Cyclades, possessing almost four thousand cities in his dominions. To raise the happiness of these provinces as high as possible, he endeavoured to draw into

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them,

them, by commerce, the riches and commodities of the East; and, to facilitate their passage, he built a city expressly on the western coast of the Red sea, cut a canal from Coptus to that sea, and caused houses to be erected along that canal, for the convenience of the merchants and travellers, as I have observed in its place.

Vol. VII. p. 306.

Cic. apud Strab. 1.

37. p. 798.

Administration Action

It was the convenience of this staple for merchandise, at Alexandria, which distused immense riches over all Egypt; riches so considerable, that it is affirmed the customs only, for the importation and exportation of merchandise at the port of Alexandria, amounted yearly to more than thirty-seven millions of livres, though most of the Ptolomies were moderate enough in the imposts they laid on their people.

Tyre, Carthage, and Alexandria were, without dispute, the most famous cities of antiquity for commerce: It was also followed with success at Corinth, Rhodes, Marseilles, and many other cities,

but not with fuch extent and reputation.

ARTICLEIL

The end and materials of commerce.

THE passage of Ezekiel, which I have cited in regard to Tyre, includes almost all the materials, in which the antient commerce consisted: Gold, silver, iron, copper, tin, lead, pearls, diamonds, and all sorts of precious stones; purple, stuffs, cloths, ivory, ebony, cedar, myrrh, aromatic reeds, or the calamus; persumes, slaves, horses, mules, grain, wine, cattle, and, in a word, all kind of precious merchandise. I shall not dwell here upon any thing, but what relates to mines of iron, copper, gold, silver, pearls, purple, and silk; nor treat even these heads with any great extent. Pliny the naturalist will be my ordinary guide,

guide, as to those of my subjects he has wrote upon. And I shall make great use of the learned remarks of the author of the natural history of gold and silver, extracted from the thirty-third book of Pliny, and printed at London.

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Mines of iron.

I T is certain, that the use of metals, especially of iron and copper, is almost as old as the world: but it does not appear, that gold or filver were much regarded in the first ages. Solely intent upon the necessities of life, the first inhabitants of the earth did what new colonies are obliged to do. They applied themselves in building them houses, clearing lands, and furnishing themselves with the instruments necessary for cutting wood, hewing stone, and other mechanical uses. As all these tools could be formed only of iron, copper, or fteel, those effential materials became, by a necessary confequence, the principal objects of their pursuit. Those who were fettled in countries which produced them, were not long without knowing their importance. People came from all parts in quest of them; and their land, though in appearance poor and barren in every other respect, became an abundant and fertile foil to them. They wanted nothing, having that merchandife; and their iron bars were ingots, which procured them all the conveniencies and elegancies of life.

It would be very grateful to know where, when, how, and by whom these materials were first discovered. Concealed as they are from our eyes, and hid in the bowels of the earth in small and almost imperceptible particles, which have no apparent relation, or visible disposition for the different works composed of them, who was it that instructed man in the uses to be made of them? It would be doing

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C. 14, 15.

chance too much honour to impute to it this difcovery. The infinite importance, and almost indispensable necessity for the instruments, with which they supply us, well deserve, that we should acknowledge it to proceed from the concurrence and goodness of Divine Providence. It is true, that providence commonly takes delight in concealing its most wonderful gifts under events, which have all the appearance of chance and accident. attentive and religious eyes are not deceived in them, and easily discover, under these disguises, the beneficence and liberality of God, so much the more worthy of admiration and acknowledgment. as less visible to man. This is a truth confessed by the Pagans themselves, as I have already observed elfewhere. We deiblied his vov

It is remarkable, that * iron, which, of all metals, is the most necessary, is also the most common, the easiest to be found, less deep in the earth than

any other, and most abundant.

As I find little in Pliny upon the manner in which the antients discovered and prepared metals, I am obliged to have recourse to what the moderns fay upon that head, in order to give the reader, at least, some slight idea of the usual methods in the discovery, preparation, and melting of those metals; which were in part practised by the antients.

The matter, from which iron is extracted, (which the term of art calls iron-ore) is found in mines of different depth, sometimes in stones as big as the

fift, and fometimes only in fand.

After having amassed the quantity of matter to be melted, it is put into large furnaces, where a great fire has been kindled. When the ore is melted and well skimmed, they make it run out of the furnace through a hole prepared for that pur-

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Ferri metalla ubique propemodum reperiuntur-Metallorum omnium vena ferri largissima est. Plin. 1. 34. c. 14.

pose, from which running with rapidity like a torrent of fire, it falls into different moulds, according to the variety of works to be cast, as kettles, and fuch kind of utenfils.

In the same manner they form also the large lumps of iron, called forus, of different fizes, which weigh sometimes two or three thousand pounds, and upwards. These are afterwards carried to the force or foundery, to be forged or fined with the affiftance of mills, which keep great hammers continu-

ally going on drap edt state Steel is a kind of iron refined and purified by fire, which renders it whiter, more folid, and of a smaller and finer grain. It is the hardest of all metals, when prepared and tempered as it ought. That temper is derived from cold water, and ac-stridentia quires a nice attention in the workman, in taking tingunt the steel out of the fire, when it has attained a certain degree of heat and of to stie

When we confider a sharp and well polished knife or razor, could we believe it was possible to form them out of a little earth, or some blackish stone? What difference is there between so rude a matter, and fuch polished and shining instruments!

Of what is not human industry capable!

Mr. Reaumur * observes, in speaking of iron, one thing well worthy of observation. Though fire feldom or ever renders it so liquid as it does gold, brafs, pewter, and lead; of metals, however, there is not one that takes the mould so perfectly. infinuates itself so well into the most minute parts of it, and receives impressions with such exactness.

Vol. I pingi lambelle che Fierman la SECT.

^{*} Memoires de l'Acade de Scienc. an. 1726.

SECT. II.

collect from which remains with middley of beginning

Mines of copper or brass.

OPPER, which is otherwise called brass, is an hard, dry, weighty metal. It is taken out of mines like other metals, where it is found, as well as iron, either in powder or stone.

Before it is melted, it must be washed very much, in order to separate the earth from it, with which it is mixed. It is afterwards melted in the furnaces by great fires, and when melted, poured off into moulds. The copper which has had only one melting, is the common and ordinary copper.

To * render it purer and finer, it is melted once or twice more. When it has passed the fire several times, and the grossest parts are separated from it, it is called Rosette, or the purest and finest copper.

Copper is naturally red, of which brass is a spe-

cies made yellow with Lapis calaminaris.

The Lapis calaminaris, which is also called Cadmia +, is a mineral or fossile, which founders use to change the colour of copper yellow. This stone does not become yellow, till after it has been baked in the manner of bricks; it is then used either to make yellow, or increase, the red fine copper.

The yellow copper, or brass, is therefore a mixture of the red, with lapis calaminaris, which augments its weight from ten to fifty in the hundred, according to the different goodness of the copper. It is called also Latten, and in the Roman language Aurichalcum.

Bronze is a made metal, confifting of a mixture of several metals.

^{*} Præterea semel recoquunt: quod sæpius fecisse, bonitati plurimum confert. Plin. 1. 34. c. 8.

[†] Vena (æris) quo dictum est modo effoditur ignique persicitur. Fit & è lapide æroio, quem vocant Cadmiam. Plin. 1. 34. c. 1.

For the fine statues of this metal, the mixture is half fine copper and half brass. In the ordinary fort, the mixture is of pewter, and sometimes of lead, to save cost.

There is also another species of mixt copper, called by the French Fonte, which differs from the Bronze,

only by being more or less mixed.

The art of founding, or, as it is vulgarly called, of casting in brass, is very antient. All ages have made their vessels, and other curious works, in metal. Casting must have been very common in Egypt, when the Israelites lest it, as they could form in the desart, without any great preparations, a statue with lineaments and shape, representing a calf. Soon after they made the molten sea, and all other vessels for the tabernacle, and afterwards for the temple. It was not uncommon to form statues of plates hammered into form, and rivetted together.

The invention of these images, either cast or hammered, took birth in the East, as well as idolatry, and afterwards communicated itself to Greece, which carried the art to the highest degree of per-

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The most celebrated and valuable copper amongst the Greeks was that of Corinth, of which I have spoken elsewhere, and that of Delos. Cicero* joins them together in one of his orations, where he mentions a vessel of brass, called authepsa, in which meat was dressed with very little fire, and almost of itself: this vessel was sold so dear, that those who passed by, and heard the sum bid for it at the sale, imagined the purchase of an estate was in question.

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^{*} Domus referta vasis Corinthiis & Deliacis: in quibus est authepsa illa, quam tanto pretio nuper mercatus est, ut qui pretereuntes pretium enumerari audiebant, fundum vænire arbitrarentur. Orat. pro Rosc. Amer. n. 133.

It is faid, that brafs was used before iron for the

making of arms. It certainly was for before gold and filver for money, at least with the Romans. It confifted at first in lumps of brass, of different bigness, and was taken by weight, without having any fixed mark or figure upon it; from whence came the form of speaking used in sales, per as & libram. * Servius Tullius, the fixth king of the Romans, was the first that reduced it to form, and stamped it with a particular impression. And as at that time the greatest riches confisted in cattle. oxen, sheep, hogs, &c. the figure of those animals, or of their heads, was stamped upon the first money that was coined, and it was called pecunia, from the Plin. 1. 34. word pecus, which fignifies cattle in general. It was not till the confulfhip of Q. Fabius and Ogulnius, five years before the first Punic war, in the 485th year of Rome, that filver species was used at Rome. They, however, always retained the antient language, and denomination, taken from the word es. brais. From thence the expression, as grave, (heavy brass) to lignify, at least in the origin of that term, the affes of a pound weight; erarium, the public treasury, wherein, in antient times, there was only brass-money; as alienum, borrowed money; with many others of like fignification. have footen elfewhere, and

* Servius Rex, primus fignavit æs. Antea rudi usos Romæ Timæus tradit. Signatum est nota pecudum: unde pecunia appellata. Plin. l. 33. c. 3.

thosewho paned by, and haske the fun bid for it at the late, imagined the purchase of an effect was

* Derind referts vyfis Corinchile & Deliacist in quibus eft audepft. The cours canto prepa mayer microsiss eft, on any greigenoute prefame endmeran audiciosis, fundam varier entucasionius.

Marian SECT.

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Mines of gold.

To find gold, fays Pliny, we have three dif-Plin. 1. 33. ferent methods. It is extracted either from c. 4. rivers, the bowels of the earth, or the ruins of mountains, by undermining and throwing them down.

I. Gold found in rivers.

Gold is gathered in small grains, or little quantities, upon the shores of rivers, as in Spain upon the brink of the Tagus, in Italy upon the Po, in Thrace upon the Hebrus, in Asia upon the Pactolus, and, lastly, upon the Ganges in India; and it is agreed, that the gold found in this manner is the best of all; because, having long run through rocks, and over sands, it has had time to cleanse

and purify itself.

The rivers I mention were not the only ones in which gold was to be found. Our Gaul had the fame advantage. Diodorus says, that nature had Diod. 1. 5. given it gold in a peculiar manner without obliging the natives to hunt after it with art and labour; that it was mingled with the sands of the rivers; that the Gauls knew how to wash those sands, extract the gold, and melt it down; and that they made themselves rings, bracelets, girdles, and other ornaments of it. Some rivers of France are † said to have retained this privilege: the Rhine, the Rhone, the Garonne, the Doux in Franche-Comté, the Cëze, and the Gardon, which have their sources in the Cevennes, the Ariége in the county of Foix,

^{*} Nec ullum absolutum aurum est, ut cursu ipso trituque perpoli-

⁺ Memoirs of the Acad. of Sciences, an. 1718.

and fome others. The gathering of it indeed does not turn to any confiderable account, scarce sufficing to the maintenance of the country-people, who employ themselves for some months in that work. They have sometimes their lucky days, when they get more than a pistole for their trouble; but they pay for them on others, which produce little or nothing.

2. Gold found in the bowels of the earth.

Those who search after gold, begin by finding what we call, in French, la manne, manna, a kind of earth, which by its colour, and the exhalations that rise from it, informs those, who understand

mines, that there is gold underneath it.

As foon as the vein of gold appears, the water must be turned off, and the ore dug out industriously, which must be taken away, and washed in proper The ore being put into them, a stream of water is poured on continually, in proportion to the quantity of the ore to be washed; and, to affift the force of the water, an iron fork is used, with which the ore is ftirred, and broken, till nothing remains in the laver, but a fediment of black fand, with which the gold is mingled. This fediment is put into a large wooden dish, in the midst of which four or five deep lines are cut, and by washing it, stirring it well in several waters, conjectura, the terrene parts dissolve, and nothing remains but pure gold dust. This is the method now used in Chili, and the same as was practifed in the time of Pliny:

See Dist. of Aurum qui quærunt, ante omnia segullum tollunt: ita Commerce. vocatur indicium. Alveus bic est, arenæ lavantur, atque Plin. 1. 33. ex eo quod resedit, conjectura capitur. Every thing is comprehended in these few words. Segullum: which

comprehended in these few words. Segullum: which is what the French call la manne, or manna. Alveus bic est: that is, the vein of gold ore. Arena lavantur: this implies the lavers. Atque ex eo quod resedit:

this

this is the sediment of black sand, in which the gold is contained. Conjectura capitur: here the stirring of the sediment, the running off of the water, and

the gold-dust that remains are intimated.

It fometimes happens, that, without digging far, the gold is found upon the superficies of the earth: but this good fortune is not frequent, though there have been examples of it. For not long ago, says Pliny, gold was found in this manner in Nero's Plin. 1.433. reign, and in so great a quantity, that fifty pounds c. 4. a day, at least, have been gathered of it. This was in Dalmatia.

It is commonly necessary to dig a great way, and to form subterraneous caverns, in which marble and small flints are found, covered with the gold. These caverns are carried on to the right or left according to the running of the vein: and the earth above it is supported with strong props at proper distances. When the metallic stone, commonly called the ore in which the gold forms itself, is brought out of the mine, it is broken, pounded, washed, and put into the furnace. The first melting is called only silver, for there is always some mingled with the gold.

The scum which rises in the furnace, is called Scoria in Latin. This is the dross of the metal, which the fire throws up, and is not peculiar to gold, but common to all metallic bodies. This dross is not thrown away, but pounded and calcined over again, to extract what remains of good in it. The crucible, in which this preparation is made, It is called ought to be of a certain white earth, not unlike Tasconium. that used by the potters. There is scarce any other, which can bear the fire, bellows, and excessive heat

of this fubstance melted.

This metal is very precious, but costs infinite Diod. 1. 3. pains in getting it. Slaves and criminals condemned to death, were employed in working the mines. The thirst of gold has always extinguished all sense

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of humanity in the human heart. Diodorus Siculus observes, that these unhappy creatures, laden with chains, were allowed no rest either by night or day: that they were treated with excessive cruelty; and, to deprive them of all hopes of being able to escape by corrupting their guards, soldiers were chosen for that office, who spoke a language unknown to them, and with whom, in consequence, they could have no correspondence nor form any conspiracy.

3. Gold found in the mountains.

Plin. 1.33. There is another method to find gold, which regards properly only high and mountainous places, fuch as are frequently met with in Spain. * These are dry and barren mountains in every other respect, which are obliged to give up their gold, to make amends, in some measure, for their sterility in every thing else.

The work begins at first by cutting great holes on the right and left. The mountain itself is afterwards attacked by the assistance of torches and lamps. For the day is soon lost, and the night continues as long as the work, that is, for several months. Before any great progress is made, great slaws appear in the earth, which falls in, and often crushes the poor miners to death; so that, says Pliny, people are much more bold and venturous in searching after pearls at the bottom of the waves in the East, than in digging for gold in the bowels of the earth, which is become, by our avarice, more dangerous than the sea itself.

It is therefore necessary in these mines, as well as in the first I spoke of, to form good arches at proper distances, to support the hollowed mountain.

† Ut jam minus temerarium videatur è profundo maris petere margaritas: tanto nocentiores fecimus terras. Plin.

There

^{*} Cæteri montes Hispaniarum aridi sterilesque, in quibus nihil aliud gignatur, huic bono sertiles esse coguntur. Plin.

There are great rocks and veins of stone found also in these, which must be broken by sire and vinegar. But, as the smoke and steam would soon sufficate the workmen, it is often more necessary, and especially when the work is a little advanced, to break those enormous masses with pick-axes and crows, and to cut away large pieces by degrees, which must be given from hand to hand, or from shoulder to shoulder, till thrown out of the mine. Day and night are passed in this manner. Only the hindmost workmen see day-light; all the rest work by lamps. If the rock is found to be too long, or too thick, they proceed on the side, and carry on the work in a curve line.

When the work is finished, and the subterraneous passages are carried their proper length, they cut away the props of the arches, that had been formed at due diffances from each other. This is the usual fignal of the ruin which is to follow, and which those, who are placed to watch it, perceive first, by the finking in of the mountain, which begins to shake: upon which they immediately, either by hallowing, or beating upon a brazen instrument, give notice to the workmen to take care of themfelves, and run away the first for their own safety. The mountain, sapped on all sides in this manner, falls upon itself, and breaks to pieces with a dreadful noise. The * victorious workmen then enjoy the fight of nature overturned. The gold, however, is not yet found; and, when they began to pierce the hill, they did not know whether there was any in it. Hope and avarice were fufficient motives for undertaking the labour, and confronting fuch dangers. The self for about the vol to we.

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But this is only the prelude to new toils, still greater and more heavy than the first. For the

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^{*} Spectant victores ruinam naturæ: nec tamen adhuc aurum est.

waters of the higher neighbouring mountains must be carried through very * long trenches, in order to its being poured with impetuofity upon the ruins they have formed, and to carry off the precious metal. For this purpose new canals must be made. fometimes higher or lower, according to the ground! and hence the greatest part of the labour arises. For the level must be well placed, and the heights well taken in all the places, over which the torrent is to pass to the lower mountain, that has been thrown down; in order that the water may have fufficient force to tear away the gold wherever it passes, which obliges them to make it fall from the greatest height they can. And, as to the inequality of the ground in its course, they remedy that by artificial canals, which preserve the descent, and keep the water within their bounds. And if there are any large rocks, which oppose its passage, they must be hewn down, made level, and have tracks cut in them for the wood-work, which is to receive and continue the canal. Having united the waters of the highest neighbouring mountains, from whence they are to fall, they make great refervoirs, of the breadth of two hundred, and the depth of ten, feet. They generally leave five openings, of three or four feet square, to receive the water at several places.

After which, when the refervoirs are full, they open the fluice, from whence falls so violent and impetuous a torrent, that it carries all away before it, and even stones of considerable magnitude.

There is another work in the plain, at the foot of the mine. New trenches must be dug there, which form several beds, for the falling of the torrent from height to height, till it discharges itselfinto the sea. But, to prevent the gold from being carried off with the current, they lay, at proper distances, good dams

^{*} A centesimo plerumque lapide.

of Ulex, a fort of shrub, much refembling our rosemary, but fomething thicker of leaves, and confequently fitter for catching this prey as in nets. Add to this, that good planks are necessary on each side of these trenches, to keep the water within them; and where there are any dangerous inequalities of ground, these new canals must be supported with * shores, till the torrent loses itself at last in the sand of the ocean. in the neighbourhood of which the mines commonly are.

The gold, got in this manner at the feet of mountains, has no need of being purified by fire; for it is at first what it ought to be. It is found in lumps of different bigness, as it is also in deep mines, but

not fo commonly.

As to the wild rosemary branches used on this occasion, they are taken up with care, dried, and then burnt; after this the ashes are washed on the turf, upon which the gold falls, and is eafily gathered.

Pliny examines wherefore gold is preferred to Plin. 1. 33. other metals, and gives several reasons for it. c. 3.

It is the only metal, which loses nothing, or almost nothing by the fire, not even of funeral piles, or conflagrations, in which the flames are generally most violent. It is even affirmed to be rather the better for having past the fire several times. It is by fire also that proof is made of it; for, when it is good, it takes its colour from it. This the workmen call obryzum, refined gold. What is wonderful in this proof, is, that the hottest charcoal has no effect on it: to melt it, † a clear fire of straw is necessary, with a little lead thrown in to refine it.

^{*} Machines to support those canals made of board.
† Strabo makes the same remark, and gives the reason for this effett: Palea facilius liquefit aurum: quia flamma mollis cum fit proportionem habet temperatam ad id quod cedit & facile funditur; carbo antem multum absumit, nimis colliquans sua vehementia & elevans. Strab. 1. 3. p. 146.

Gold loses very little by use, and much less than any other metal : whereas filver, copper, and pewter, foil the hands, and draw black lines upon any thing, which is a proof that they waste, and lose their substance more easily.

It is the only metal that contracts no ruft, nor any thing which changes its beauty, or diminishes its weight. It is a thing well worthy of admiration, that of all substances gold preserves itself best, and entire, without rust or dirt, in water, the earth, dung, and sepulchres, and that throughout all ages. There are medals in being, which have been struck above two thousand years, which seem just come from the workman's hands,

It is observed, that * gold resists the impressions and corrosion of falt and vinegar, which melt and fubdue all other matter.

There is + no metal which extends better, nor divides into so great a number of particles of different kinds. An ounce of gold, for instance, will form feven hundred and fifty leaves, each leaf of four inches square and upwards. What Pliny says here, is certainly very wonderful; but we shall prefently fee, that our modern artificers have carried their skill much farther than the antients in this, as well as many other points.

In fine, gold will admit to be foun and wove, like wool, into any form. It may be worked even without wool (or filk) or with both. The first of the Tarquins triumphed in a vest of cloth made of gold; and Agrippina, the mother of Nero, when the emperor Claudius her husband gave the people the representation of a sea-fight, appeared at it in

Gold

^{*} Jam contra falis & aceti succos, domitores rerum, constantia.

[†] Nec aliud laxius dilatatur, aut numerosius dividitur, utpote cujus unciæ in septingenas, pluresque bracteas, quaternum utroque digitorum, spargantur. Pline la casa a service a service paragolita alaja simulda mailam me a long

a long robe made of gold wires, without any mixture whatfoever.

What is related of the extreme smallness of gold and silver, when reduced into wire, would seem incredible, if not confirmed by daily experience. I shall only copy here what I find in the memoirs of An. 1718.

the academy of sciences upon this head.

We know, fay those memoirs, that gold-wire is only filver-wire gilt. By the means of the engine for drawing wire, a cylinder of filver, covered with leaf gold, being extended, becomes wire, and continues gilt to the utmost length it can be drawn. It is generally of the weight of forty-five marks; its diameter is an inch and a quarter French, and its length almost two and twenty inches. Mr. Reaumur proves, that this cylinder of filver, of two and twenty inches, is extended by the engine to thirteen million, nine hundred and fixty-three thousand, two hundred and forty inches, or, one million, one hundred and fixty-three thousand, five hundred and twenty feet; that is to fay, fix hundred and thirtyfour thousand, fix hundred and ninety-two times, longer than it was, which is very near ninety-feven leagues in length, allowing two thousand perches to each league. This wire is foun over filk-thread, and before spun is made flat from round as it was, when first drawn, and in flatting generally lengthens one seventh at least; so that its first length of tweny two inches is changed into that of an hundred and eleven leagues. But this wire may be lengthened a fourth in flatting, instead of a seventh, and in consequence be fixscore leagues in extent. This should feem a prodigious extension, and yet is nothing.

The cylinder of filver of forty-five marks, and twenty two inches length, requires only to be covered with one ounce of leaf gold. It is true, the gilding will be light, but it will always be gilding; and, though the cylinder in paffing the engine attains

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the length of a hundred and twenty leagues, the gold will still continue to cover the filver without variation. We may fee how exceedingly small the ounce of gold, which covers the cylinder of filver of forty-five marks, must become, in continuing to cover it throughout so vast an extent. Mr. Reaumur adds to this confideration, that it is eafy to diffinguish, that the filver is more gilt in some than in other places; and he finds, by a calculation of wire the most equally gilt, that the thickness of the gold is 10,50600 th of a line, or twelfth part of an inch: fo enormous a smallness, that it is as inconceivable to us, as the infinite points of the geo-It is, however, real, and produced by metricians. mechanical instruments, which, though ever so fine to our fenses, must still be very gross in fact. Our understanding is lost and confounded in the confideration of fuch objects; and how much more in the infinitely Small of God!

ELECTRUM.

It is necessary to observe, says Pliny, whom I Lib. 33. C. 3. copy in all that follows, that in all kinds of gold there is always fome filver, more or less: sometimes a tenth, fometimes a ninth or an eighth. There is but one mine in Gaul from whence gold is extracted, that contains only a thirtieth part of filver. which makes it far more valuable than all others. This gold is called Albicratense, of Albicrate, (an ancient place in Gaul near Tarbæ.) There were feveral mines in Gaul, which have been fince either Strab. 1. 4. neglected or exhausted. Strabo mentions some of P. 190. them, amongst which are those of Tarbæ, that were, as he fays, very fruitful in gold. For, without digging far, they found it in quantities large enough to fill the palm of the hand, which had no great occasion for being refined. They had also

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To the gold, continues Pliny, which was found to have a fifth part of filver in it, they gave the name of Electrum. It might be called white gold, because it came near that colour, and is paler than the other.) The most antient people seemed to have set a great value upon it. Homer, in his odys. 1. 4. description of Menelaus's palace, says, it shone universally with gold, electrum, silver, and ivory. The electrum has this property peculiar to it, that it brightens much more by the light of lamps than either gold or silver.

SECT. IV.

Silver-mines.

OILVER-MINES, in many respects, resemble Plin. 1.33. those of gold, The earth is bored, and long c. 6. caverns cut on the right or left, according to the course of the vein. The colour of the metal does not enliven the hopes of the workmen, nor the ore glitter and sparkle as in the others. The earth which contains the filver is fometimes reddiff, and fometimes of an ash colour; which the workmen distinguish by use. As for the silver, it can be only refined by fire, with lead, or with * pewter-ore. This ore is called galena, and found commonly in the veins of filver mines. The fire only separates these fubstances; the one of which it reduces into lead or pewter, and the other into filver; but the last always fwims at top, because it is lightest, almost like oil upon water.

There were filver-mines in almost all the provinces of the Roman empire. That metal was

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^{*} This ore is the rude and mixed substance which contains the metal. It is commonly called the Marcasite stone, especially with relation to gold and silver.

found in Italy near Vercella; in Sardinia, where there was abundance of it; in several places of the Gauls; even in Britain; in Alsace, witness Strasburgh, which took its name Argentoratum, as Colmar did Argentaria, from it; in Dalmatia and Pannonia, now called Hungary; and, lastly, in Spain and Portugal, which produced the finest gold.

What is most surprising in the mines of Spain, is, that the works, begun in them by Hannibal's * Plin. ibid. orders, subsist in our days, says Pliny; that is to say, above three hundred years; and that they still retain the names of the first discoverers of them, who were all Carthaginians. One of these mines, amongst the rest, exists now, and is called Bebulo. It is the same from which Hannibal daily extracted three hundred pounds of silver, and has been run sisteen hundred paces in extent, and even through the mountains, by the Accitanian people; who, without resting themselves, either by night or day, and supporting themselves only by the aid of their lamps, have drawn off all the water from them. There are also veins of silver, discovered in that country, almost upon the surface of the earth.

For the rest, the antients easily knew when they were come to the end of the vein, which was when they found allum; after that, they searched no farther, though lately, (it is still Pliny who speaks) beyond the allum, they have found a white vein of copper, which served the workmen as a new token, that they were at the end of the vein of silver.

The discovery of the metals we have hitherto spoken of, is a wonder we can never sufficiently admire. There was nothing more hidden in nature than gold and silver. They were buried deep in

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^{*} When he went thither to besiege Saguntum.

⁺ The people of Murcia and Valentia, which were part of the diftrict of new Carthage.

the earth, mingled with the hardest stones, and in appearance perfectly useless; the parts of these precious metals were so confounded with foreign bodies, so imperceptible from that mixture, and so difficult to separate, that it did not seem possible to cleanfe, collect, refine, and apply them to their uses. Man, however, has surmounted this difficulty, and, by experiments, has brought his first discoveries to such perfection, that one would imagine gold and filver were formed from the first in folid pieces, and were as eafily diffinguished as the flints, which lie on the furface of the earth. But was man of himfelf capable of making fuch discoveries? Cicero * fays, in express terms, that God had in vain formed gold, filver, copper, and iron, in the bowels of the earth, if he had not vouchfafed to teach man the means, by which he might come at the veins, that conceal those precious metals.

SECT. VI.

Product of gold and filver mines, one of the principal fources of the riches of the antients.

I T is easy to conceive that mines of gold and silver must have produced great profits to the private persons and princes who possessed them, if they took the least trouble to work them.

Philip, the father of Alexander the Great, had Diod.1.16. gold-mines near Pydna, a city of Macedonia, from which he drew yearly a thousand talents, that is to say, three millions. He had also other mines of Justin.1.8. gold and filver in Thessay and Thrace; and it apstrab. I. 7. pears, that these mines substitted as long as the p. 331.

VOL. I.

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kingdom

^{*} Aurum & argentum, se & ferrum frustra natura civina genuisset, nisi eadem docuisset quemadmodum ad eorum venas perveniretur. De Divinat. 1. 1. n. 116.

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kingdom of Macedonia; for * the Romans, when they had conquered Perseus, prohibited the use and

exercise of them to the Macedonians.

Xenoph. de ration.

The Athenians had filver mines not only at Laurium in Actica, but particularly in Thrace, from which they were great gainers. Xenophon mentions many citizens enriched by them. Hipponius. had fix hundred flaves: Nicias, who was killed in Sicily, had a thousand. The farmers of their mines paid daily to the first fifty livres, clear of all charges, allowing an obolus +-a day for each flave; and as much in proportion to the fecond, which

amounted to a confiderable revenue.

Xenophon, in the treatife wherein he proposes feveral methods for augmenting the revenues of Athens, gives the Athenians excellent advice upon this head, and exhorts them, above all, to make commerce honourable; to encourage and protect those, who applied themselves to it, whether citizens or strangers; to advance money for their use, taking fecurity for the payment; to fupply them with ships for the transportation of merchandise; and to be affured, that, with regard to trade, the opulence and strength of the state consisted in the wealth of individuals, and of the people. He infifts very much in relation to mines, and is earnest that the republic should cultivate them in its own name, and for its own advantage, without being afraid of injuring particulars in that conduct; because they sufficed for the enriching both the one and the other, and that mines were not wanting to workmen, but workmen to the mines.

But the produce of the mines of Attica and Thrace was nothing in comparison with what the Spanish mines produced. The Tyrians had the

a hundred drachmas a mina, and fixty mina, a talent.

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Metalli quoque Macedonici, quod ingens vectigal erat, locationes tolli placebat. Liv. 1. 45. n. 18. + Six oboli made one drachma, which was worth ten pence French;

first profits of them; the inhabitants of the country not knowing their value. The Carthaginians fucreeded them; and as foon as they had fet foot in Spain, perceived the mines would be an inexhauftible source of riches for them. Pliny informs us, Plin. 1. 33. that one of them alone supplied Hannibal daily c. 6. with three hundred pounds of filver, which amounts to twelve thousand fix hundred livres; as the same Pliny observes elsewhere.

Polybius, cited by Strabo, fays, that in his time Ibid. c. 9. there were forty thousand men employed in the mines in the neighbourhood of Carthagena, and that they paid daily twenty-five thousand drachmas to the Roman people, that is, twelve thousand five

hundred livres.

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History mentions private persons, who had immense and incredible revenues. Varro speaks of varr. apud one Ptolomy, a private person, who, in the time Plin. 1. 33. of Pompey, commanded in Syria, and maintained c. 18. eight thousand horse, at his own expences; and had generally a thousand guests at his table, who had each a gold cup, which was changed at every This is nothing to Pythius of Bithynia, Plin. ibid. who made king Darius a present of the Plantane Herod. and Vine, so much extolled in history, both of massy 1. 7. c. 27. gold, and feasted the whole army of Xerxes one day in a splendid manner, though it consisted of seventeen hundred thousand men; offering that prince five months pay for that prodigious holt, and the necessary provisions for the whole time. From what fource could fuch enormous treafures arife, if not principally from the mines of gold and filver possessed by these particulars?

We are surprised to read in Plutarch, the account of the sums carried to Rome, for the triumphs of Paulus Emilius, Lucullus, and many

other victorious generals.

But all this is is inconsiderable to the endless millions amassed by David and Solomon, and em-G 2

Eloth and Ezioneg-

z Chron. viii. 18.

2 Chron.

ployed in the building and ornaments of the temple of Jerusalem. Those immense riches, of which the recital aftonishes us, were partly the fruits of the commerce established by David in Arabia, Persia, and Indostan, by the means of two ports he had caused to be built in Idumæa, at the extremity of the Red fea; which trade Solomon must have confiderably augmented, as, in one voyage only, his fleet brought home four hundred and fifty talents of gold, which amount to above one hundred and thirty-five millions of livres. Judæa was but a fmall country, and nevertheless the annual revenue of it in the time of Solomon, without reckoning many other fums, amounted to fix hundred and fixty-fix talents of gold, which make near two hundred millions of livres. Many mines must have been dug in those days, for supplying so incredible a quantity of gold; and those of Mexico and Peru were not then discovered.

SECT. VI.

Of coins and medals.

HOUGH commerce began by the exchange of commodities, as appears in Homer; experience foon made the inconvenience of that traffic evident, from the nature of the feveral merchandifes, that could neither be divided, nor cut without confiderable prejudice to their value; which obliged the dealers in them, by little and little, to have recourse to metals, which diminished neither in goodness nor fabric by division. Hence, from the time of Abraham, and without doubt before him, gold and filver were introduced in commerce, and, perhaps, copper also for the leffer As frauds were committed in regard to the weight and quality of the metal, the civil government and public authority interposed, for esta-- blishing

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blishing the security of commerce, and stamped metals with impressions to distinguish and authorize them. From thence came the various dyes for money, the names of the coiners, the effigies of princes, the years of confulships, and the like marks.

The Greeks put enigmatical hieroglyphics upon their coins, which were peculiar to each province. The people of Delphos represented a dolphin upon theirs: this was a kind of speaking blazonry: the Athenians the bird of their Minerva, the owl, the fymbol of vigilance, even during the night: the Bœotians a Bacchus, with a bunch of grapes and a large cup, to imply the plenty and deliciousness of their country: the Macedonians a shield, in allusion to the force and valour of their foldiery: the Rhodians the head of Apollo, or the fun, to whom they dedicated their famous Colossus. every magistrate took pleasure to express in his money the glory of his province, or the advantages of his city.

The making bad money has been practifed in all ages and nations. In the first payment made by the * Carthaginians of the fum, to which the Romans had condemned them at the end of the fecond Punic war, the money brought by their ambaffadors was not of good alloy, and it was discovered, upon melting it, that the fourth part was bad. They were obliged to make good the deficiency by borrowing money at Rome. Antony, Plin. 1. 336 the Triumvir, at the time of his greatest necessity, c. 9. caused iron to be mixed with the money coined by his order.

This bad coin was either made by a mixture of copper, or wanted more or less of its just weight.

A pound

^{*} Carthaginenses eo anno argentum in stipendium impositum primum Romam advexerunt. Id quia probum non esse quæstores renunciaverant, ex percentibusque pars quarta decocta erat pecunia Romæ mutua sumpta intertrimentam suppleverunt. Liv. 1. 32. n. 2.

A pound of gold and filver ought to be, as Pliny observes, sourscore and sixteen, or an hundred drachmas in weight. Marius Gratidianus, brother of the samous Marius, when he was prætor, suppressed several disorders at Rome, relating to the can, by wise regulations. The people, always sensible of amendments of that kind, to express their gratitude, erected statues to him in all the quarters of that city: It was * this Marius, whom Sylla, to avenge the cruelties committed by his brother, ordered to have his hands cut off, his legs broken, and his eyes put out, by the ministration of Catiline.

Flor. l. 3. c. 21. Senec. de ira, l. 3. c. 18.

The inconveniencies of exchanges were happily remedied by the coining of gold and filver species, that became the common price for all merchandise, of which the painful, and often useless, carriage, was thereby saved. But the antient commerce was still in want of another advantage, which has been since wisely contrived. I mean the method of remitting money from place to place, by bill directing the payment of it.

It is not easy to distinguish with certainty the difference between coins and medals, opinions differing very much upon that head. What seems most probable is, that a piece of metal ought to be called coin, when it has, on one side, the head of the reigning prince, or some divinity, and is always the same on the reverse. Because money being intended to be always current, the people ought to know it with ease, that they may not be ignorant of its value. Thus the head of Janus, with the beak of a galley on the reverse, was the first money of Rome. Servius Tullius, instead of the head of a ship, stamped that of a sheep, or an ox,

Plin. 1. 33. c. 3.

^{*} M. Mario, cui vicatim populus statuas posuerat, cui thurr & vino Romanus Populus supplicabat. L. Sylla perfringi crura, oculos erui, amputari manus jussit; & quasi toties occideret, quoties vulnerabat, paulatim & per singulos artus laceravit. Senec.

on it, from whence came the word pecunia, because those animals were of the kind called pecus. the head of Janus, a woman armed was afterwards fubstituted, with the inscription Roma; and on the other fide, a chariot drawn by two or four horses, of which were the pieces of money called Bigati, and Quadrigati. Victories were also put on them, Victoriati. All these different species are allowed to be coins, as are those which have certain marks on them; as an X, that is to fay Denarius; an L, Libra; an S, Semis. These different marks explain the weight and value of the piece.

Medals are pieces of metal, which generally express on the reverse some considerable event.

The parts of a medal are its two fides, of which the one is called the face or head, and the other the reverse. On each side of it there is a field. which is the middle of the medal; the circumference or border; and the exergue, which is the part at the bottom of the piece, upon which the figures represented by the medal are placed. Upon these two faces the type, and the inscription or legend, are distinguished. The figures represented are the type; the inscription or legend is the writing we fee on it, and principally that upon the border or circumference of the medal.

To have some idea of the science of medals, it is necessary to know their origin and use; their division into antient and modern, into Greek and Roman; what is meant by the medals of the early or later empire; of the great or fmall bronze; what a feries is in the language of antiquarians. But this is not the proper place for explaining all these The book of father Joubert the jesuit, on things. the knowledge of medals, contains what is neceffary to be known, when a profound knowledge of them is not required.

I content myfelf with informing young perions, who are defirous to fludy history in all its extent,

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that the knowledge of medals is absolutely necessary

to that kind of learning. For history is not to be learnt in books only, which do not always tell the whole, or the truth of things. Recourse must therefore be had to pieces, which support it; and which neither malice nor ignorance can injure or vary; and such are the monuments which we call medals. A thousand things, equally important and curious are to be learnt from them, which are not to be found elsewhere. The pious and learned author of the memoirs upon the history of the emperors gives us a proof and model of the use which may be made of the knowledge of medals.

Mr. Tille-

As much may be faid of antique feals and carved ftones, which have this advantage of medals, that being of a harder substance, and representing the figures upon them in hollow, they preserve them perpetually in all their perfection; whereas medals are more subject to spoil, either by being rubbed, or by the corrosion of saline particles, to which they are always exposed. But to make amends, the latter being all of them far more abundant than the former in their various species, they are of

much greater use to the learned.

The royal academy of inscriptions and polite learning, established and renewed so successfully under the preceding reign, and which takes in all erudition, antient and modern for its object, will not a little contribute to preserve amongst us, not only a good taste for inscriptions and medals, which confifts in a noble simplicity; but one in general for all works of wit, that are principally founded upon antient authors, whose writings this academy make their peculiar study. I dare not express here all that I think of a fociety, into which I am admitted, and of which I am a member. I was chosen into it upon its being revived, without making any interest for so honourable a place, and indeed without knowing any thing of it; an introduction, in my opinion, highly worthy of learned Bodies. I could wish

OF COMMERCE.

wish that I had merited it better, and had discharged the functions of a fellow of the academy with greater abilities.

SECT. VII.

Of pearls.

HE pearl is an hard, white, clear substance, which forms itself in the inside of a certain kind of oysters.

The testaceous fish, in which the pearls are found, is three or four times as large as the common oyster. It is commonly called *pearl*, or *mother* of pearl.

Each mother of pearl generally produces ten or twelve pearls. An author, however, who has treated of their production, pretends to have feen to the number of an hundred and fifty in one of them, but in various degrees of perfection. The most perfect always appear the first, the rest remain under the oyster, at the bottom of the shell.

Pearl-fishing amongst the antients was followed principally in the Indian seas, as it still is, as well as in those of America, and some parts of Europe. The divers, under whose arms a cord is tied, of which the end is made fast to the bark, go down into the sea several times successively, and after having torn the oysters from the rocks, and filled a basket with them, they come up again with great agility.

This fishing is followed in a certain season of the year. The oysters are commonly put into the sand, where they corrupt by the extraordinary heat of the sun; and opening of themselves shew their pearls, which, after that, it is sufficient to clean and dry.

The other precious stones are quite rough, when taken from the rocks, where they grow, and derive

their

their lustre only from the industry of man. Nature alone furnishes the substance which art must finish by cutting and polishing. But, as to pearls, that clear and shining * water, for which they are so much esteemed, comes into the world with them. They are found compleatly polished in the abysses of the sea, and nature puts the last hand to them before they are torn from their shells.

The + perfection of pearls, according to Pliny, confifts in their being of a glittering whiteness, large, round, smooth, and of a great weight, quali-

ties seldom united in the subject.

Plin. 1. 9.

It is chimerical to imagine, that pearls take birth from dew drops; that they are fost in the sea, and only harden when the air comes to them; that they waste and come to nothing, when it thunders, as

Pliny and feveral authors after him fay.

Many things are highly prized only for being fearce, whose ‡ principal merit consists in the danger people are at to get them. It is strange that men should set so small a value upon their lives, and should judge them of less worth than shells hidden in the sea. If it were necessary, for the acquiring of wisdom, to undergo all the pains taken to find some pearl of uncommon beauty and magnitude, (and as much may be said of gold, silver, and precious stones) we ought not to be a moment in resolving to venture life, and that often for such inestimable treasure. Wisdom is the greatest of all fortunes; a pearl the most frivolous of riches: men, however, do nothing for the former, and hazard every thing for the latter.

+ Dos omnis in candore, magnitudine orbe, livore, pondere;

haud promptis rebus. Plin. l. 9. c. 35.

Plin. ibid.

In the terms of jewellers, they call the sbining colour of pearls water, from their being supposed to be made of water. Hence the pearl-pendants of Cleopatra were said to be inestimable, both for their water and large size.

SECT. VIII. PURPLE.

TUFFS dyed with purple were one of the most considerable branches of the commerce of the antients, especially of Tyre, which by industry and extreme skill had carried that precious dye to the highest possible degree of perfection. The purple disputed value with gold itself in those remote times, and was the distinguishing mark of the greatest dignities of the universe, being principally appropriated to * princes, kings, senators, confuls, dictators, emperors, and those to whom Rome

granted the honour of a triumph.

The purple is a colour, compounded between red and violet, taken from a sea-sish covered with † a shell, called also The purple. Notwithstanding various treatises written by the moderns upon this colour so highly prized by the antients, we are little acquainted with the nature of the liquor which produced it. Aristotle and Pliny have lest many re-Arist. de markable things upon this point, but such as are Hist. more proper to excite, than fully to satisfy curio-c. 15. sity. The latter, who has spoken the most at large Plin. 1. 9. upon the preparation of purple, has confined all he c. 38. says of it to a sew lines. These might suffice for the description of a known practice in those times; but is too little to give a proper idea of it to ours, after the use of it has ceased for many ages.

Pliny divides the several species of shells, from Plin. 1. 9. which the purple dye is taken, into two kinds; the c. 39. first of which includes the small kind of Buccinum, so called from the resemblance between that fish's shell and a hunting-horn; and the second the shells called purple, from the dye they contain.

From thence purple habits are called in Latin, conchyliatæ vestes.

^{*} Color nimio lepore vernans, obscuritas rubens, nigredo sanguinea regnantem discernit, dominum conspicuum facit, & præstat humano generi ne de conspectu principis possit errari. Cassod. l. 1. Var. Ep. 2.

It is believed that this latter kind were called also Murex.

ful. Polhux. l. 1. Caffiod. 1. 1. Var. Ep. 2

the Acad.

Some authors affirm, that the Tyrians discovered the dye we speak of by accident. An hungry dog having broke one of these shells with his teeth upon the fea-side, and devoured one of these fish, all around his mouth and throat were dyed by it with fo fine a colour, that it surprised every body that faw it, and gave birth to the defire of making use of it.

The purple * of Getulia in Africa, and that of Plin. I. 9. 5. 36-39. + Laconia in Europe, were in great estimation; but the Tyrian in Asia was preferred to all others; and that principally which was twice dipt, called for that reason dibapha. A pound of it was fold at Rome for a thousand denarii, that is, five hundred livres.

The Buccinum and Murex scarce differed in any thing but the bigness of shell, and the preparation of them. The Murex was fished for generally in the open fea; whereas the Buccinum, was taken from Memoirs of the stones and rocks to which it adhered. I shall speak here only of the Buccinum, and shall extract of Sciences. An 1711. a small part of what I find upon it, in the learned

differtation of Monsieur Reaumur.

The liquor could not be extracted from the Buccinum, without employing a very confiderable length of time for that purpose. It was first necessary to break the hard shell, that covered them. This shell being broke at some distance from its opening, or the head of the Buccinum, the broken pieces were taken away. A small vein then appeared, to use the expression of the antients; or with greater propriety of speech, a small refervoir, full of the pro-

* Vestes Getulo murice tectas. Robes with Getulian purple dy'd. † Nec Laconicas mihi

Trabunt honestæ purpuras clientæ. Nor do my noble clients wives with care Laçonia's purple spin for me to wear.

per liquor for dying purple. The colour of the liquor contained in this small reservoir, made it very distinguishable, and differs much from the slesh of the animal. Aristole and Pliny say, it is white; and it is indeed inclining to white, or between white and yellow. The little refervoir, in which it is contained, is not of equal bigness in all the Buccina; it is, however, commonly about a line, the twelfth part of an inch in breadth, and two or three in length.——It was this little refervoir the antients were obliged to take from the Buccinum, in order to separate the liquor contained in it. They were under a necessity of cutting it from each fish, which was a tedious work, at least with regard to what it held: for there is not above a large drop of liquor in each refervoir. From whence it is not furprifing that fine purple should be of so high a price amongst

Aristotle and Pliny say indeed, that they did not take the pains to cut these little vessels from the smaller sish of this kind separately, but only pounded them in mortars, which was a means to shorten the work considerably. Vitruvius seems even to Architecte give this as the general preparation. It is, how-1.7. c. 13. ever, not easy to conceive, how a fine purple colour could be attained by this means. The excrements of the animal must considerably change the purple colour, when heated together, after being put into the water. For that substance is itself of a brown, greenish colour, which, no doubt, it communicated to the water, and must very much have changed the purple colour; the quantity of it being exceedingly greater than that of the liquor.

In the preparation of purple, the cutting out the small refervoir of liquor from each *Buccinum*, was not the whole trouble. All those small vessels were afterwards thrown into a great quantity of water, which was set over a flow fire for the space of ten hours. As this mixture was left so long upon the fire, it was impossible for it not to take the

purple

purple colour: it took it much sooner, as I am well convinced, says Mr. Reaumur, by a great number of experiments. But it was necessary to separate the stessy parts, or little vessels, wherein the liquor was contained; which could not be done without losing much of the liquor, but by making those stessy membranes dissolve in hot water, to the top of which they rose at length in scum, which was taken off with great care.

This was one manner in which the antients made the purple dye; that was not intirely lost, as is believed, or at least, was discovered again about fifty years ago by the royal society of England. One species of the shells from which it is extracted, a kind of Buccinum, is common on the coast of that country. The observations of an Englishman upon this new discovery, were printed in the journals of

France in 1686.

Another Buccinum, which gives also the purple dye, and is evidently one of those described by Pliny, is found upon the coast of Poitou. The greatest shells of this kind are from twelve to thirteen lines (of an inch) in length, and from seven to eight in diameter, in the thickest part of them. They are a single shell turned spirally, like that

of a garden fnail, but fomewhat longer.

In the journal of the learned for 1686, the various changes of colour through which the Buccinum's liquor passes are described. If instead of taking out the vessel which contains it according to the method of the antients, in making their purple, that vessel be only opened, and the liquor pressed out of it, the linnen or other stuffs, either of silk or wool, that imbibe this liquor, will appear only of a yellowish colour. But the same linnen or stuffs, exposed to a moderate heat of the sun, such as it is in summer-mornings, in a sew hours take very disterent colours. That yellow begins at first to incline a little to the green; thence it becomes of a lemon colour. To that succeeds a livelier green, which

which changes into a deep green; this terminates in a violet colour, and afterwards fixes in a very fine purple. Thus these linnens or stuffs, from their first yellow, proceed to a fine purple through all the various degrees of green. I pass over many very curious observations of Monsieur Reaumur's upon these changes, which do not immediately come

into my subject.

It seems surprising, that Aristotle and Pliny, in speaking of the purple dye, and the shells or several countries from which it is extracted, should not say a word of the changes of colour, so worthy of remark, through which the dye passes before it attains the purple. Perhaps not having sufficiently examined these shells themselves, and being acquainted with them only from accounts little exact, they make no mention of changes which did not happen in the ordinary preparation of purple; for, in that, the liquor being mingled in cauldrons with a great quantity of water, it turned immediately red.

Mr. Reaumur, in the voyage he made in the year 1710, upon the coast of Poitou, in considering the shells called Buccinum, which the sea in its ebb had left upon the shore, he found a new species of purple dye, which he did not fearch after; and which, according to all appearances, had not been known to the antients, though of the same species with their own. He observed that the Buccina generally thronged about certain stones, and arched heaps of fand, in fuch great quantities, that they might be taken up there by handfuls, though dispersed and fingle every-where elfe. He perceived, at the fame time, that those stones or heaps of fand were covered with certain grains, of which the form resembled that of a small oblong bowl. The length of these grains was somewhat more than three lines, (a quarter of an inch) and their bigness fomething above one line. They feemed to him to contain white liquor inclining to yellow. He preffed out the juice of some of them upon his ruffle, which:

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at first seemed only a little soiled with it; and he could perceive with difficulty, only a fmall yellowish fpeck here and there in the spot. The different oblects, which diverted his attention, made him forget what he had done, and he thought no farther of it, till casting his eyes, by accident, upon the same ruffle, about a quarter of an hour after, he was ftruck with an agreeable furprife, to fee a fine purple colour on the places where the grains had been fourezed. This adventure occasioned many experiments, which give a wonderful pleafure in the relation, and shew what great advantage it is to a nation to produce men of a peculiar genius, born with a taste and natural disposition for making happy discoveries in the works of nature.

Mr. Reaumur remarks, that the liquor was extracted from these grains, which he calls the eggs of purple, in an infinitely more commodious manner. than that practifed by the antients for the liquor of the Buccinum. For there was nothing more to do. after having gathered these eggs, than to have them well washed in the sea-water, to take off as much as possible the filth which might change the purple colour by mixing with it; there was, I fay, nothing more to do than to put them into clean cloths. The liquor was then pressed out, by twisting the ends of these cloths different ways, in the same manner almost that the juice is pressed out of gooseberries to make jelly. And to abridge this trouble still more; fmall presses might be used, which would immediately press out all the liquor. We have seen before, how much time and pains were necessary for

extracting the liquor from the Buccina.

Plin. 1. 22. The Coccus or Coccum supplied the antients with the fine colour and dye we call fearlet, which in fome measure disputed beauty and splendor with Quintilian * joins them together; where

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niat Stan

Quid non adultus concupiscet, qui in purpuris repit? Nondum prima verba exprimit, & jam coccum intelligit, jam conchylium poscit. Quintil. l. 1. c. 1.

he complains, that the parents of his times dreffed their children, from their cradles in scarlet and purple, and inspired them in that early age, with a tafte for luxury and magnificence. Scarlet, according to * Pliny, supplied men with more splendid garments than purple, and at the fame time more innocent, because it was not necessary to hazard life

in attaining it.

VOL. I.

Scarlet is generally belived the feed of a tree, of the holm-tree kind. It has been discovered to be a fmall round excrescence, red, and of the bigness of a pea, which grows upon the leaves of a little shrub, of the holm species, called ilex aculeata cocciglandifera. This excrescence is caused by the bite of an infect, which lays its eggs in it. The Arabians term this grain Kermes; the Latins, Coccus and vermiculas; from whence the words vermilion, and Cufculum or quisquilium, are derived. A great quantity of it is gathered in Provence and Languedoc. The water of the Gobelin's river is proper for dying fcarlet:

There are two kinds of scarlet. The scarlet of France or of the Gobelins, which is made of the grain I have mentioned; and the scarlet of Holland, which derives itself from cochineal: This is a drug that comes from the East-Indies. Authors do not agree upon the nature of cochineal. Some believe it a kind of worm, and others that it is only the feed of a tree.

The first kind is seldom used since the discovery of cochineal, which produces a much more beautiful and lively scarlet than that of the Kermes, which is deeper, and comes nearer to the Roman purple. It has, however, one advantage of the cochineal-

Transalpina Gallia herbis Tyrium atque conchylium tingit, omnesque alios colores. Nec quærit in profundis murices—ut inveniat per quod matrona adultero placeat, corruptor insidietur nuptæ. Stans & in sicco carpit, quo fruges modo. Plin. icarlet;

fearlet; which is, that it does not change colour when wet falls upon it, as the other does, that turns blackish immediately after.

SECT. IX.

Of silken stuffs.

SILK, as Monsieur Mahudal observes in the dissertation * he has given us on this subject, of which I shall make great use in this place; silk, I say, is one of the things made use of for many ages almost through all Asia, in Africa, and many parts of Europe, without peoples knowing what it was; whether it was, that the people's amongst whom it grew, gave strangers little access to them; or that, jealous of an advantage peculiar to themselves, they apprehended being deprived of it by foreigners. It was undoubtedly from the difficulty of being informed of the origin of this precious thread so many singular opinions of the most antient authors took birth.

Herod. 1. 3. c. 106.

To judge of the description Herodotus makes of a kind of wool much finer and more beautiful than the ordinary kind, and which, he says, was the growth of a tree in the Indies, (the most remote country known by the eastern people of his times to the eastward) that idea seems the first they had of silk. It was not extraordinary, that the people sent into that country to make discoveries, seeing only the bags of the silk-worms hanging from the trees in a climate, where those infects breed, feed upon the leaves, and naturally ascend the branches, should take those bags for lumps of wool.

It is likely, that Theophrastus, upon the relation of those mistaken persons, might conceive these

^{*} Memoirs of the academy of Inscriptions, Vol. V.

a real specied of trees, and rank them in a particular class, which he enumerates, of trees bearing wool. There is good reason to believe Virgil of the same opinion:

Velleraque ut foliis depectant tenuia Seres.

Georg. 1. 2. v. 121.

As India's sons

Comb the soft stender fleeces of the bough.

Aristotle, though the most antient of the na-Arist. 1. 51 turalists, has given a description of an infect that hist. animal comes nearest the filk-worm. It is where he speaks of the different species of the caterpillar, that he describes one, which comes from an horned worm, to which he does not give the name of Bóusos, till it has shut itself up in a cod or bag, from whence, he says, it comes out a buttersty; it passes through these several changes, according to him, in six months:

About four hundred years after Aristotle, Pliny, Plin. 1. 1112 to whom that philosopher's history of animals was c. 22, 234 perfectly known; has repeated the same fact literally in his own. He places also, under the name Bombyx, not only this species of worm, which, as some report produced the silk of Cos; but several other caterpillars found in the same island, that he supposes to form there the cods or bags, from which, he says, the women of the country spin silk, and make stuffs of great sineness and beauty.

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Pausanias, that wrote some years after Pliny, is Pausan. 1. the first who informs us, that this worm was of 6. p. 394. Indian extraction, and that the Greeks called it inhabitants of the Indies, amongst whom we are since convinced, this insect was first found.

The worm, which produces filk, is an infect still less wonderful, for the precious matter it supplies for the making of different stuffs, than for the

the various forms it takes, either before or after its having wrapped itself up in the rich bag, or cod, it spins for itself. From the grain or egg it is at first, it becomes a worm of confiderable fize, and of a white colour inclining to yellow. When it is grown large, it incloses itself within its bag, where it takes the form of a kind of grey bean, in which there feems neither life nor motion. It comes to life again to take the form of a butterfly, after having made itself an opening through its tomb of filk. At last, dying in reality, it prepares itself, by the egg or feed it leaves, a new life, which the fine weather and the heat of the summer are to assist it to resume. In the first volume of the Spectacle de la Nature, may be feen a more extensive and more exact description of these various changes.

It is from this bag or cod, into which the worm shuts itself, that the different kinds of filken manufactures are made, which serve not only for the luxury and magnificence of the rich, but the fubfistance of the poor, who spin, wind, and work Each bag or cod is found to contain more than nine hundred feet of thread; and this thread is double, and glued together throughout its whole length, which in confequence amounts to almost two thousand feet. How wonderful it is, that out of a substance so slight and fine, as almost to escape the eye, stuffs should be composed of such strength, and duration, as those made of filk! But what lustre, beauty, and delicacy, are there in those stuffs! It is not furprising, that the commerce of the antients confifted confiderably in them; and that, as they were very scarce in those times, their price ran exceding high. Vopifcus * affures us, that the emperor Aurelian, for that reason, refused

^{*} Vellem holosericam neque ipse in vestiario suo habuit, neque alteri utendum dedit. Ec cum ab eo uxor sua peteret, ut unico pallio blatteo Serico uteretur, ille respondit: Absit, ut auro sila pensentur. Libra enim auri tunc libra Serici suit. Vopisc. in Aurel.

the empress his wife an habit of filk, which she earnestly solicited him to give her; and that he said to her: The gods forbid that I should purchase filk at the price of its weight in gold; for the price of a pound of filk was at that time a pound of gold.

It was not till very late, that the use of filk was Procop. known and became common in Europe. The hifto- bell. Vanrian Procopius dates the æra of it about the middle dal. of the fifth century, under the the emperor Justinian. He gives the honour of this discovery to two monks. who, foon after their arrival at Constantinople from the Indies, heard, in conversation, that Justinian, was extremely folicitous about depriving the Perfians, of their filk trade with the Romans. They found means to be presented to him, and proposed a shorter way to deprive the Persians of that trade. than that of a commerce with the Ethiopians, which he had thoughts of fetting on foot; and this was, by teaching the Romans the art of making filks for themselves. The emperor, convinced by the account they gave him of the possibility of the means, fent them back to Serinda (the city's name where they had refided) to get the eggs of the infects, which they told him could not be brought alive. Those monks, after their second voyage, returning to Constantinople, hatched the eggs, they had brought from Serinda, in warm dung. When the worms came out of them, they fed them with white mulberry leaves, and demonstrated by the fuccess of that experiment all the mechanism of filk in which the emperor had defired to be informed.

From that time the use of filk spread by degrees into several parts of Europe. Manufactures of it were fet up at Athens, Thebes, and Corinth. was not till about 1130, that Roger, king of Sicily, established one at Palermo. It was at that time, in this island and Calabria, workment in filk were first seen, who were part of the booty that prince brought from the cities of Greece I have

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mentioned, which he conquered in his expedition to the Holy Land. In fine, the rest of Italy and Spain having learnt of the Sicilians and Calabrians to breed the worms, and to spin and work their silk, the stuffs made of it began to be manufactured in France, especially in the south parts of that kingdom, where mulberry-trees were raised with most ease. Lewis XI, in 1470, established silken manufactures at Tours. The first workmen employed in them were brought from Genoa, Venice, Florence, and even from Greece. Works of silk were, however, so scarce even at court, that Henry II. was the first prince that wore silk stockings which he did

at the nuptials of his fifter.

They are now become very common, but do not cease to be one of the most astonishing wonders of nature. Have the most skilful artificers been able hitherto to imitate the curious work of the filkworm? Have they found the secret to form so fine, fo strong, fo even, fo shining and so extended a thread? Have they a more valuable substance for the fabric of the richest stuffs? Do they know in what manner this worm converts the juice of a leaf into threads of gold? Can they give a reason why a matter, liquid before the air comes to it, should condense and extend to infinitude afterwards? Can we explain how this worm comes to have fense to form itself a retreat for the winter, within the innumerable folds of the filk, of which itself is the principal; and to expect, in that rich tomb, a kind of refurrection, which supplies it with the wings its first birth had not given it? These are the reflections made by the author of the new commentary upon Job, upon account of these words: Quis * posuit in nentibus sapientiam? Who bath given Wisdom to certain animals, that have the industry to spin?

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^{*} This, Mr. Rollin fays in the margent, is the fense, according to the Hebrew of the 36th werse of the 38th chapter of Job: Which in the English wersion is only, Who hath put wisdom in the inward parts.

CONCLUSION.

ROM what has been faid hitherto, we may conclude commerce one of the parts of government, capable of contributing the most to the riches and plenty of a flate: and therefore that it merits the particular attention of princes and their ministers. It does not appear indeed, that the Romans fet any value upon it. Dazzled with the glory of arms, they would have believed it a difgrace to them to have applied their cares to the interest of trade, and in some measure to become merchants: they, who believed themselves intended by fate to govern mankind, and were folely intent upon the conquest of the universe. Neither does it seem posfible, that the spirit of conquest and the spirit of commerce should not mutually exclude each other in the same nation. The one necessarily introduces tumult, disorder, and desolation, and carries trouble and confusion along with it into all places: the other, on the contrary, breathes nothing but peace and tranquillity. I shall not examine in this place, whether the aversion of the Romans for commerce were founded in reason; or if a people, solely devoted to war, are thereby the happier. I only fay, that a king who truly loves his fubjects, and endeavours to plant abundance in his dominions, will spare no pains to make traffic flourish and succeed in them without difficulty. It has been often faid, and it is a maxim generally received, that commerce demands only liberty and protection: liberty within wife restrictions, in not tying down such as exercise it to the observance of inconvenient, burthensome, and frequently useless regulations; protection in granting them all the supports they have occasion for. We have seen the vast expences Ptolomy Philadelphus was at, in making commerce flourish H 4

flourish in Egypt; and how much glory the success of his measures acquired him. An intelligent and well-inclined prince will intermeddle only in commerce, to banish fraud and bad arts from it by severity, and will leave all the profits to his subjects, who have the trouble of it; well convinced, that he shall find sufficient advantages from it by the great

riches it will bring into his dominions.

I am fensible that commerce has its inconveniencies and dangers. Gold, filver, diamonds, pearls, rich stuffs, in which it confists in a great measure, contribute to support an infinity of pernicious arts which tend only to enervate and corrupt a people's manners. It were to be defired, that the commerce might be removed from a Christian nation, which regards only fuch things as promote luxury, vanity, effeminacy, and idle expences. But this is impossible. As long as bad defires shall have dominion over mankind, all things, even the best, will be abused by them. The abuse merits condemnation, but is no reason for abolishing uses, which are not bad in their own nature. This maxim will have its weight with regard to all the sciences I shall treat of in the sequel of this work.

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INTRODUCTION.

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Of the liberal arts. Honours rendered those who excelled in them.

E come now to treat of the arts which are call Liberal, in opposition to such as are Mechanic, because the first are considered as the most noble and more immediately dependent upon the understanding. These arts are principally architecture, sculpture, painting, and music:

The arts as well as sciences have had their happy ages, in which they have appeared with greater splendor, and cast a stronger light: but, as the * historian observes, this splendor, this light, was soon obscured, and the duration of these times of perfection of no great continuance. It was longer in

^{*} Hoc idem evenisse grammaticis, plastis, pictoribus, sculptoribus, quisquis temporum notis institerit reperiet, & eminentia cujusq; operis arctissimis temporum claustris circumdata. Paterc. l. 1.

Greece than in any other part of the world. To begin the reign of the liberal arts no higher than the time of Pericles, and make it endure only to the death of Alexander's first successors, (and each of thess Æras may be extended both at their beginning and end,) the space will be at least two hundred years, during which appeared a multitude of persons illustrious for excelling in all the arts.

It is not to be doubted but rewards, honours, and emulation, contributed very much in forming these great men. What ardour must the laudable custom have excited, which prevailed in many cities of Greece, of exhibiting in the shews such as succeeded best in the arts of instituting public disputes between them, and of distributing prizes to the victors, in the sight and with the applauses of an whole people!

Greece, as we shall soon see, thought herself obliged to render as much honour to the celebrated Polygnotus, as she could have paid to Lycurgus and Solon; to prepare magnificent entries for him into the cities where he had finished some paintings, and to appoint, by a decree of the Amphitryons, that he should be maintained at the public expence in all the places to which he should go.

What honours have not the greatest princes paid in all ages to such as distinguished themselves by the arts! We have seen Alexander the Great, and Demetrius Poliorcetes, forget their rank to familiarize themselves with two illustrious painters, and come where they worked, to pay homage, in some manner, to the rare talents and superior merit of those extraordinary persons.

One of the greatest emperors that reigned in the West since Charlemagne, shewed the value he set upon painting when he made Titian Count Palatine, and honoured him with the golden key, and all the orders of knighthood.

Cav. Ridolphi in the life of Titian.

Francis I,

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Francis I, king of France, his illustrious rival as Vafari in well in the actions of peace as those of war, out-the life of did him much, when he said to the lords of his da Vinci. court of Leonardo da Vinci, then expiring in his arms: You are in the wrong to wonder at the bonour I pay this great painter; I can make a great many such Lords as you every day, but only God can make such a man as bim I now tose.

Princes who speak and act in this manner, do themselves at least as much honour as those whose merit they extol and respect. * It is true, the arts, by the esteem kings profess for them, acquire a dignity and splendor that render them more illustrious and exalted: but the arts, in their turn, respect a like lustre upon kings, and ennoble them also in some measure, in immortalizing their names and actions by works transmitted to the latest posterity.

Paterculus, whom I have already cited upon the fhort duration of arts when they have attained their perfection, makes another very true remark, confirmed not only by the experience of the remote, but later, ages; which is, † that great men in every kind, arts, sciences, policy, and war, are generally cotemporaries.

If we recal the times when Apelles, Praxiteles, Lysippus, and other excellent artists flourished in Greece, we find her greatest poets, orators, and philosophers, were then alive. Socrates, Plato, Aristotle, Demosthenes, Isocrates, Thucydides, Xenophon, Æschylus, Euripides, Sophocles, Aristophanes, Menander, and many others, lived all of them almost in the same age. What men, what

^{*} De pictura, arte quondam nobili, tunc cum expeteretur a regibus populisq; & illos nobilitante, quos dignata esset posteris tradere. Plin. 1. 35. c. 1.

[†] Quis abunde mirari potest, quod eminentissima cujusq; professionis ingenia in candem formam & in idem arctati temporis * congruant spatium. Peterc. 1. 1. c. 16.

^{*} Sic Lipsius legit, pro congruens.

generals, had Greece at the fame time? Had ever

the world any fo confummate?

The Augustan age had the same fate in every respect. In that of Lewis XIV, what a number of great men lived of every kind, whose names, actions, and works, will celebrate that glorious reign for ever?

It feems as if there were certain periods of time, in which I know not what spirit of perfection univerfally diffuses itself in the same country throughout all professions, without it being possible to assign how or why it should happen so. We may say, however that all arts and talents are allied in some manner to each other. The tafte of perfection is the same in whatever depends upon genius. If cultivation be wanting, an infinity of talents lie buried. When true tafte awakes, those talents deriving mutual aid from each other, shine out in a peculiar manner. The missortune is, that this perfection itself, when arrived at its supreme degree, is the forerunner of the decline of arts and sciences, which are never nearer their ruin, than when they appear the most remote from it: Such are the instability and variation of all human things!

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CHAPTER III. OF ARCHITECTURE.

ARTICLE I.

Of Architecture in general.

SECT. I.

Rise, progress, and perfection of Architecture.

T is not to be doubted but the care of building houses immediately succeeded that of cultivating lands, and that architecture is not of a much later date than agriculture. Hence Theodoret Theodor. calls the latter the eldest sister of architecture. The Orat. 4. de Provid. excessive heats of summer, the severity of winter, p. 359. the inconvenience of rain, and the violence of wind, soon instructed mankind to seek for shelter, and provide themselves a retreat to defend them against the inclemencies of weather.

At first, these were only little huts, built very rudely with the branches of trees, and very indifferently covered. In the time of Vitruvius, they vitr. 1. 1. shewed at Athens, as curious remains of antiquity, c. 1. the roofs of the Areopagus, made of clay; and at Rome in the temple of the capitol, the cottage of

Romulus, thatched with straw.

There were afterwards buildings of wood, which fuggested the idea of columns and architraves. Those columns took their model from the trees which were used at first to support the roof, and the architrave is only the large beam, as its name implies

implies, that was laid between the columns and the roof.

The workmen, in consequence of their application to building, became every day more industrious, and expert. Instead of those slight huts with which they contented themselves at first, they began to erect walls of stone and brick upon solid foundations, and to cover them with boards and tiles. In process of time, their reflections, founded upon experience, led them on to the knowledge of the just rules of proportion; the taste of which is natural to man, the author of his being having implanted in him the invariable principles of it, to make him fensible that he is born for order in all things. * Hence it is, as St. Auftin observes, that in a building, where all the parts have a mutual relation to each other, and are ranged each in its proper place, the fymmetry catches the eye, and occafions pleasure: whereas if the windows, for instance, are ill disposed, some large and others small, fome placed higher and fome lower, the irregularity offends the fight, and feems to do it a kind of injury, as St. Austin expresses it.

It was therefore by degrees, that architecture attained the height of perfection, to which the masters in the art have carried it. At first it confined itself to what was necessary to man in the uses of life, having nothing in view but solidity, healthfulness, and conveniency. An house should be durable, situated in an wholesome place, and have all the conveniencies that can be defired. Architecture afterwards laboured to adorn buildings, and make them more splendid, and for that reason called in other arts to its aid. At last came pomp, grandeur,

^{*} Itaque in hoc ipso ædiscio singula bene considerantes, non posfumus non offendi, quod unum ostium videmus in latere, alterum, prope in medio, nec tamen in medio collocatum. Quippe in rebus fabricatis, nulla cogente necessitate, iniqua dimensio partium facere ipsi adspectui velut quamdam videtur injuriam. S. Augustin. de ord. 1. 2. 6. 11. n. 34.

and magnificence, highly laudable on many occa-

fions, but foon strangely abused by luxury.

The holy Scripture speaks of a city built by Cain, Gen. iv.

after God had cursed him for the murder of his 17.

brother Abel; which is the first mentioned of edifices in history. From thence we learn the time and place in which architecture had its origin. The descendants of Cain, to whom the same Scripture ascribes the invention of almost all the arts, carried this no doubt to a considerable height of perfection.

And it is certain, that after the deluge, men, before they separated from each other, and dispersed them-

felves into the different regions of the world, refolved to fignalize themselves by a superb building, which again drew down the wrath of God upon them. Asia therefore was the cradle of architecture where it had its birth where it attained a

ture, where it had its birth, where it attained a great degree of perfection, and from whence it

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The erection of the famous pyramids, of the lake Mœris, the labyrinth, of the confiderable number of temples in Egypt, and of the obelifks which are to this day the admiration and ornament of Rome, shew with what ardour and success the Egyptians applied themselves to architecture.

It is however neither to Asia nor Egypt that this art is indebted for that degree of perfection, to

Erech, the long city. Rehoboth, the broad city. Refen, the great city. According to the Hebrew.

which it attained; and there is reason to doubt, whether the buildings, so much boasted by both, were as estimable for their justness and regularity, as their enormous magnitude; in which perhaps their principal merit consisted. The designs, which we have of the ruins of Persepolis, prove that the kings of Persia, of whose opulence ancient history says so much, had but indifferent artists in their

pay.

However it be, it appears from the very names of the three principal orders of architecture, that the invention, if not perfection, of them is to be ascribed to Greece, and that it was she who prescribed the rules, and supplied the models of them. As much may be said with regard to all the other arts, and almost all the sciences. Not to speak in this place of the great captains, philosophers of every sect, poets, orators, geometricians, painters, sculptors, architects, and, in general, of all that relates to the understanding, which Greece produced: whither we must still go as to the school of good taste in every kind, if we desire to excel.

It is a misfortune that there is nothing written by the Greeks upon architecture now extant. The only books we have of theirs upon this subject, are the structures of those ancient masters still subsisting, whose beauty, universally acknowledged, has for almost two thousand years been the admiration of all good judges: works infinitely superior to all the precepts they could have left us; * practice in all things being infinitely preferable to theory.

For want of Greeks, Vitruvius, a Latin author, will come in to my affiftance. His being architect to Julius and Augustus Cæsar (for according to the most received opinion he lived in their times) gives good reason to presume upon the excellency of his work, and the merit of the author. And the

In omnibus fere minus valent præcepta, quam experimenta.

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Critics

Critics accordingly place him in the first class of the great geniusses of antiquity. To this first motive may be added the character of the age in which he lived, when good tafte prevailed univerfally, and the emperor Augustus piqued himself upon adorning Rome with buildings equal to the grandeur and majesty of the empire; which made him fay, * that he found the city of brick, but left almost entirely of marble. I had great occasion for fo excellent a guide as Vitruvius, in a fubject entirely new to me, I shall make great use of the notes Mr. Perrault has annexed to his translation of this author, as well as of Mr. Chambrai's reflections in his work intitled, Ancient and modern architecture compared, which I know is in high esteem with the judges; and those of Mr. Felibian, in his book, called, Of the principles of architecture, &c.

The antients, as well as we, had three forts of architecture; the civil, the military, and the naval. The first lays down rules for all public and private, buildings for the use of citizens in time of peace. The fecond treats of the fortification of places, and every thing of that kind relating to war: And the third the building of ships, and whatever is confequential of, or relates to it. I shall speak here only of the first, intending to say something elsewhere of the two others; and shall begin by giving a general idea of the feveral orders of

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^{*} Urbem, neque pro majestate imperii ornatam, & inundationibus incendiisque obnoxiam, excolunt adeo, ut jure sit gloriatus, marmoream se relinquere, quam lateritiam accepisset. Sueton. in Aug.

god confidition of amounty. To be full one SECT. II.

Of the three orders of architecture of the Greeks, and the two others, which have been added to them.

THE occasion there was for erecting different forts of buildings made artifts also establish different proportions, in order to have such as were proper for every kind of structure, according to the magnitude, strength, splendor and beauty, they were directed to give them: and from these different proportions they composed different orders.

Order, as a term of architecture, fignifies the different ornaments, measures and proportions of the columns and pilasters, which support or adorn

great buildings.

There are three orders of the architecture of the Greeks, the Doric, Ionic, and Corinthian. They may with reason be called the supreme perfection of the orders, as they contain not only all that is fine, but all that is necessary in the art; there being only three ways of building, the folid, the middle, and the delicate, which are all perfectly executed in these three orders.

To these the Latins have added two others, the Fuscan and Composite orders, which are far below the former in value and excellency.

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I. Doric Order.

The Doric order may be faid to have been the first regular idea of architecture, and as the eldest fon of this art, had the honour to be also the first in building temples and palaces. The antiquity of Vitr. 1. 4. its origin is almost immemorial: Vitruvius however ascribes it with probability enough to a prince of Achaia, named Dorus, the same evidently who gave his name to the Dorians, and being fovereign

c. 1.

of Peloponnesus, caused a magnificent temple to be erected in the city of Argos to the goddess Juno. That temple was the first model of this order; in imitation of which, the neighbouring people built several others: the most famous of these was that consecrated by the inhabitants of the city of Olympia to Jupiter, surnamed the Olympic.

The effential character and specific quality of the Doric order is solidity. For this reason it ought principally to be used in great edifices and magnificent structures, as in the gates of citadels and cities, the outsides of temples, in public halls, and the like places, where delicacy of ornaments seems less consistent: whereas the bold and gigantic manner of this order has a wonderful happy effect, and carries a certain manly and simple beauty, which forms properly what is called the grand manner.

II. Ionic Order.

After the appearance of these regular buildings, and famous Doric temples, architecture did not confine itself long to these first essays: the emulation of the neighbouring people foon enlarged and carried it to its perfection. The Ionians were the vitr. 1, 4, first rivals of the Dorians; and as they had not the c. 1. honour of the invention, they endeavoured to refine upon the authors. Confidering, therefore, that the form of a man, such for example as Hercules was, from which the Doric order had been formed, was too robust and heavy to agree with sacred mansions and the representation of heavenly things, they composed one after their own manner, and chose a model of a more delicate and elegant proportion; which was that of a woman, having more regard to the beauty than folidity of the work, to which they added abundance of ornaments.

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OF ARCHITECTURE.

Amongst the celebrated temples built by the people of Ionia, the most memorable, though the most antient, is the famous temple of Diana at Ephefus, of which I shall foon speak.

III. Corinthian Order.

The Corinthian order, which is the highest degree of perfection architecture ever attained, was invented at Corinth. Though its antiquity be not exactly known, nor the precise time in which Callimachus lived, to whom Vitruvius gives the whole glory of it, we may judge, however, from the nobleness of its ornaments, that it was invented during the magnificence and splendor of Corinth, and foon after the Ionic, which it much refembles, except only in the capital or chapiter. A kind of chance gave birth to it. Callimachus having feen, as he passed by a tomb, a basket, which some body had fet upon a plant of Acanthus or bearsfoot, was ftruck with the accidental fymmetry and happy effect produced by the leaves of the plant, growing through and incircling the basket; and though the basket with the Acanthus had no natural relation to the capital of a column and a maffy building, he imitated the manner of it in the columns he afterwards made at Corinth, establishing and regulating by this model the proportions and ornaments of the Corinthian order.

This Callimachus was called by the Athenians xararegro, expert and excellent in art, from his delicacy and address in cutting marble: and according Plin. 1. 14. to Pliny and Paufanias, he was also called xaxiforexrey because he was never contented with himself, and 1. 1. p. 48. was always retouching his works, with which he was never entirely fatisfied: full of superior ideas of the beautiful and the grand, he never found the execution sufficiently equal to them; semper calummator fie, nec finem habens diligentia, says Pliny.

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IV. Tuscan Order.

The Tuscan order, according to the general opinion, had its origin in Tuscany, of which it retains the name. Of all the orders it is the most simple, and has the sewest ornaments. It is even so gross, that it is seldom used except for some rustic building, wherein there is occasion only for a single order; or at best for some great edifice, as

an amphitheatre, or other the like works.

In Mr. Chambrai's judgment the Tuscan column, without any architrave, is the only one that deferves to be used; and to confirm his opinion of this order. he cites an example of it from Trajan's pillar, one of the most superb remains of the Roman magnificence now in being, and which has more immortalized that emperor, than all the pens of historians could have done. This maufolæum, if it may be called fo, was erected to him by the fenate and people of Rome, in acknowledgment of the great fervices he had done to his country. And that the memory of them might subsist throughout all ages. and endure as long as the empire, they caused them to be engraven in marble, and in the richest stile that ever was conceived. Architecture was the writer of this ingenious kind of history: and because she was to record a Roman, she did not make use of the Greek orders, though incomparably more perfect, and more used even in Italy than the two others of their own growth; lest the glory of that admirable monument should in some measure be divided, and to shew at the same time, that there is nothing fo simple to which art cannot add perfection, She chose therefore the column of the Tuscan order, which till then had been only used in gross and ruftic things, and made their rude mass bring forth the choicest and most noble master-piece of art in the world, which time has spared and preferved I 3

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ferved entire down to us, amidst the infinity of ruins, with which Rome abounds. And indeed it is a kind of wonder to see that the Coliseum, the theatre of Marcellus, the great Circuses, the baths of Dioclesian, Caracalla, and Antoninus, the superb mole of Adrian's burying-place, the Septizonum of Severus, the Mausolæum of Augustus, and so many other structures, which seemed to be built for eternity, are now so defaced and ruinous, that their original form can scarce be discerned, whilst Trajan's pillar, of which the structure seems far less durable, still subsists entire in all its parts.

V. Composite Order.

The Composite order was added to the others by the Romans. It participates and is composed of the Ionic and Corinthian, which occasioned its being called the Composite: but it has still more ornaments than the Corinthian. Vitruvius, the father of the architects, says nothing of it.

Mr. Chambrai objects strongly against the bad taste of the modern Compositors, who, amidst so many examples of the incomparable architecture of the Greeks, which alone merits that name, abandoning the guidance of those great masters, take a quite different route, and blindly give into that bad taste of art, which has by their means crept into the orders under the name of Composite.

Gothic architecture.

That which is remote from the antient proportions, and is loaded with chimerical ornaments, is called the Gothic architecture, and was brought by the Goths from the north.

There are two species of Gothic architecture; the one antient, the other modern. The antient is that which the Goths brought from the north in the

the fifth century. The edifices built in the antient Gothic manner were maffy, heavy, and gross. The works of the modern Gothie stile were more delicate, easy, light, and of an astonishing boldness of workmanship. It was long in use, especially in Italy. It is furprifing, that Italy, abounding with monuments of fo exquisite a taste, should quit its own noble architecture, established by antiquity, fuccess, and possession, to adopt a barbarous, foreign, confused, irregular, and hideous manner. But it has made amends for that fault, by being the first to return to the antient tafte, which is now folely and univerfally practifed. The modern Gothic continued from the thirteenth century till there establishment of the antient architecture in the fourteenth. All the antient cathedrals are of Gothic architecture. There are fome very antient churches built entirely in the Gothic taste, that want neither folidity nor beauty, and which are still admired by the greatest architects, upon account of some general proportions remarkable in them.

A plate of the five orders of architecture, of which I have spoken, will enable youth, whom I have always in view, to form some idea of them. I shall prefix to it an explanation of the terms of art, which Mr. Camus, fellow of the academy of sciences, and professor and secretary of the academy of architecture, was pleased to draw up expressly for my work. At my request he abridged it very much, which makes it less compleat than it might otherwise have been.

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Explanation of the terms of art, relating to the five, orders of architecture.

A Mongst the Greeks, an order was composed of columns and an entablature. The Romans added pedestals under the columns of most orders to increase their height.

The COLUMN is a round pillar, made either to

support or adorn a building.

Every column, except the Doric, to which the Romans give no base, is composed of a base, a

shaft, and a capital or chapiter.

The Base is that part of the column, which is beneath the shaft, and upon the pedestal, when there is any. It has a plinth, of a flat and square form like a brick, called in Greek and and mouldings, that represent rings, with which the bottoms of pillars were bound, to prevent their cleaving. These rings, when large, are called Tori, and, when small, Astragals. The Tori generally have hollow spaces cut round between them, called Rundels, Scotia or Trochylus.

The Shart of the column is the round and even part extending from the base to the capital. This part of the column is narrower at top than at bottom. Some architects are for giving the column a greater breadth at the third part of their height, than at the bottom of their shaft. But there is no instance of any such practice amongst the antients. Others make the shaft of the same size from the bottom to the third, and then lessen it from the third to the top. And some are of opinion, that

it should begin to lessen from the bottom.

The CAPITAL is that upper part of the column which is placed immediately upon the shaft.

The ENTABLATURE is the part of the order above

above the columns, and contains the architrave, the frize, and the cornish.

The Architrave represents a beam, and lies next immediately to the capitals of the columns. The Greeks call it Epistyle, Emission.

The Frize is the space between the architrave and the cornish. It represents the cieling of the building.

The Cornish is the beginning of the whole order. It is composed of several mouldings, which projecting over one another, serve to shelter the order from the waters of the roof.

The *Pedestal* is the lowest part of the order. It is a square body, containing three parts: The foot, which stands on the area or pavement; the die, that lies upon the foot; and the wave (cymatium) which is the cornish of the pedestal, upon which the column is placed.

Architects do not agree among themselves about the proportion of the columns to the entablature and pedestals. In following that of Vignola, when an order with pedestals is to be made to an height given, the height must be divided into nineteen equal parts, of which the column, with its base and capital, is to have twelve, the entablature three, and the pedestal four. But if the order is to have no pedestal, the height given must be divided into sisteen parts only, of which the column is to have twelve, and the entablature three.

It is by the diameter of the bottom of the shaft of the columns that all the parts of the orders are regulated. But this diameter has not the same proportion with the height of the column in all the orders.

The femidiameter of the bottom of the shaft is called module or model. This model serves as a scale to measure the smaller parts of the orders. Many architects divide it into thirty parts, so that the whole diameter contains sixty, which may be called minutes.

The difference between the relation of the heights of columns to their diameters, and between their bases, capitals, and entablatures, forms the difference between the five orders of architecture. But they are principally to be diffinguished by the capitals; except the Tuscan, which might be confounded with the Doric, if only their capitals were confidered.

The Doric and Ionic pillars have in their capitals only mouldings in the form of rings with a flat square stone over them, called Plinth or Abacus. But the Doric is eafily distinguished from the Tuscan order; the frize is plain, and in the Doric adorned with Triglyphs, which are long, fquare ruftics, not unlike the ends of feveral beams which project over the architrave to form a roof or cieling. This ornament is affected by the Doric order, and is not to be found in the others.

The Ionic capital is easily distinguished by its volutes, ears, or spiral rolls, projecting underneath

the plinth or abacus.

The Corinthian capital is adorned with two rows of eight leaves each, and with eight small volutes,

which project between the leaves.

And lastly, the Composite capital is compounded from the Corinthian and Ionic capitals. It has two rows of eight leaves, and four great volutes, which feem to project under the abacus.

To relate at large all the particularities affected by the different orders, it would be necessary to expatiate upon particulars much more than is con-

fiftent with the plan of my work.

Mr. Buache, Fellow of the academy of sciences, has given himself the trouble to trace the plan of the five orders of architecture in the plate annexed.

called module or model. This model ferves as a feale or measure the femalier parts of de orders. Many schiredts divide it into thirty parts, fo that the -I T. A A neter cortains fixry, which may be called

all works of Brafs. The words I have now enoted. especially those from Exodus, thew that the know-

ledge, fail, .ii a d S I T R A O Cod, or

Of the architects and buildings most celebrated by the antients.

T Can only touch very lightly upon this fubject, which would require whole volumes to treat it in its extent; and shall make choice of what seems most proper to inform the reader, and fatisfy his just curiofity, without excluding what the Roman history may supply, as I have before observed.

The Holy Scripture, in speaking of the building Exod. of the tabernacle, and afterwards of the temple of xxv. 8, 9. Jerusalem that succeeded it, tells us one circum-xxviii. 19. stance highly to the honour of architecture, which is, that God vouchsafed to be the first architect of those two great works, and traced the plans of them himself with his own divine hand, which he afterwards gave to Moses and David, to be the models for the workmen employed in them. This was not all. That the execution might fully answer his designs, be filled Bezaleel with the Spirit of God, Exod. whom he had appointed to prefide in building the xxxi. 16, tabernacle; that is to fay, in the express words of the Scripture, be had filled bim with the Spirit of God in wisdom, and in understanding, and in knowledge, and in all manner of workmanship. To devise cunning works, to work in gold, and in filver, and in brafs. And in cutting of stones to set them, and in carving of timber, to work in all manner of workmanship. he joined Aholiab with him, whom he had filled with wisdom as well as all the other Artisans, that they may make all that I have commanded thee. It is faid in like manner, that Hiram, who was employed by Solomon in building the temple, was filled with 1 Kings, wisdom, and understanding, and cunning, to work in vii. 14.

all works of brass. The words I have now quoted, especially those from Exodus, shew that the knowledge, skill, and industry of the most excellent workmen are not their own, but the gift of God, of which they feldom know the origin, and make the use they ought. We must not expect to find such purity of fentiments amongst the Pagans, of whom we have to speak.

I shall pass over in silence the famous buildings of Babylonia and Egypt, that I have mentioned more than once elsewhere, and in which brick was used with so much success. I shall only insert here a remark from Vitruvius, that has some relation to

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them payraldo stoled syed I as This excellent architect observes, that the antients in their buildings made most use of brick, because brick-work is far more durable than that of stone. Hence there were many cities, in which both the public and private buildings, and even the royal palaces, were only of brick. Amongst many other examples, he cites that of Maufolus, king of Caria. In the city of Halicarnassus, says he, the palace of the potent king Maufolus is walled with brick, though univerfally adorned with the marble of Proconnesus; and those walls are * still very fine and entire, cased over with a plaister as fmooth as glass. It cannot however be faid, that this king could not build walls of more coftly materials, who was so powerful, and at the same time had fo great a taste for fine architecture, as the fuperb buildings, with which he adorned his capital, fufficiently prove.

elidom arren as all the other Arritans, char they they make all was I have commanded thee. It is faid

^{*} Vitruvius lived 350 years after Maufolus.

1. Temple of Ephesus.

The temple of Diana, of Ephesus, was deemed one of the seven wonders * of the world.

Cteliphon or Cherliphron (for authors differ in Plin. 1. 364 the name) made himself very famous by building c. 14. this temple. He traced the plans of it, which were partly executed under his own direction, and that of his fon Metagenes; and the rest by other architects, who worked upon it after them, for the space of two hundred and twenty years, which that fuperb edifice took up in building. Cteliphon worked before the LXth olympiad. Vitruvius A. M. fays, that the form of this temple is dipteric, that 3464. is to fay, that it was furrounded with two rows of c. 1. columns in form of a double portico. It was almost one hundred and forty two yards in length, and feventy two in breadth. * In this edifice there were one hundred and twenty feven columns of marble fixty feet high, given by as many kings. Thirty fix of these columns were carved by the most excellent artists of their times. Scopas, one of the most celebrated sculptors of Greece, finished one of them, which was the finest ornament of this magnificent structure. All Asia had contributed with incredible ardour to the erecting and adorning it.

Vitruvius relates the manner of getting the marble Vitr. 1. 10. for this pile. Though the account feems a little c. 7. fabulous, I shall, however, repeat it. A shepherd, named Pyxodorus, often drove his sheep to feed in the country about Ephesus, at the time when the Ephesians proposed to bring the marble that was necessary for building the temple of Diana, from Paros, Proconnesus, and other places. One day, whilst he was with his slock, it happened, two

See plate and further description of this temple, as the fixth frecies of the temples of the antients, a little lower.

rams that were fighting missed each other in their carier, and one of them hit his horn so violently against a rock, that he struck off a piece of it, which seemed so exquisitely white to the shepherd; that immediately leaving his slock upon the mountain, he ran with that splinter to Ephesus, at that time in great difficulty about the importation of marble. Great honours were instantly decreed him. His name Pyxodorus was changed into Evangelus, which signifies the messenger of good news; and to this day, adds Vitruvius, the magistrate of the city goes every month to sacrifice upon the spot; and in case he fails to do so, is subject to a severe penalty.

Vitr. 1. 10.

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It was not sufficient to have found marble; it was necessary to remove it into the temple, after being worked upon the spot, which could not be executed without difficulty and danger. Ctesiphon invented a machine, which very much facilitated the carriage of it. His son Metagenes invented another for carrying the architraves. Vitruvius has left us the description of both these machines.

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PLATE II. explained.

The machines of Ctesiphon, Metagenes, and Paconius, for removing great stones.

CTESIPHON observing that the ways Vitr. 1. 10. were not firm enough to bear the weight of c. 6. vast columns, from the quarry to Ephesus, upon carriages, and that the wheels would fink into the ground, and frustrate the endeavour of removing them in that manner, he contrived a frame, as in Fig. 1. of four pieces of wood, four inches square; two of them, fomething more than the length of the column AA, croffed at the ends by the other two, fomething more than its diameter.

At each end of the column, in the center, he affixed a large iron pin, barbed at the ends within the stone, and well sealed with lead; these came through iron rings in the crofs pieces of the frame, B.

To each corner of the frame, on the fide the machine was to be drawn, poles of oak were joined, by iron hooks to strong iron rings, C.

When the oxen drew at these poles, the columns DD turned round in the manner of a rollingstone, and were drawn with no great difficulty to Ephefus; eight thousand paces. These pillars

were only rough hewn at the quarry.

Fig. 2. Upon the model of the former machine, Metagenes, the fon of Ctefiphon, contrived another for the carriage of architraves. He made strong and broad wheels, of about twelve feet in diameter DD, in the middle of which he fixed the architraves EE with large iron pins in the center, at each end of them, F. The pins came through a ring of iron in a frame, like that of Fig. 1. to which poles for the beafts to draw by were affixed in the fame manner of mother as de la lande la lande.

OF ARCHITECTURE.

Fig. 3. In the time of Vitruvius, Paconius undertook to bring from the mines the base, for a vast flatue of Apollo, of twelve feet high, eight broad, and fix thick. His machine, though not unlike that of Metagenes, was of a different make. It confifted of two strong wheels of fifteen feet high, HH. Into these he fixed the ends of the stone G. Through the whole circumference of both these wheels, at only a foot's distance from each other, he drove round fookes two inches thick, II. Round these spokes the cable K was wound, which, when drawn by the oxen, fet the machine a moving: but Vitruvius fays, that the cable never drawing from any fixed or central point, the engine continually turned either to the right or left, in such a manner, that it could not be made to perform what it was defigned for. Mr. Perrault expresses his furprise at this, as, says he, by adding only another cable, to draw equally on each fide at the fame time, it might have been made a better machine than that of Metagenes. He adds, that it was ftrange a man could have fense enough to invent fuch an engine, and not know fo eafy an expedient to rectify its operations.

In præf.

The same Vitruvius informs us, that Demetrius, whom he calls the servant of Diana, servus Diana, and Pæonius, the Ephesian, finished the building of this temple, which was of the Ionic order. He does not precisely mark the time when these two architects lived.

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The frantic extravagance of a private man destroyed in one day the work of two hundred years. Every body knows that Herostratus, to immortalize his name, set fire to this famous temple, and consumed it to ashes. This happened on the day Alexander the Great was born; which suggested the frigid conceit to an historian, that Diana was fo buly at the labour of Olympia, that she could

not spare time to preserve her temple.

The fame Alexander, who was infatiably fond of every kind of glory, offered afterwards to supply the Ephelians with all the expences necessary for the rebuilding of their temple, provided they would consent, that he should have the fole honour of it. and that no other name should be added to his in the inscription upon it. The Ephesians did not approve this condition: but they covered their refusal with a flattery, with which that prince seemed fatisfied, in answering him, That it was not confistent for one god to erest a monument to another. The temple was rebuilt with still greater magnificence than the first.

2. Buildings erected at Athens, especially under Pericles.

I should never have done, if I undertook to describe all the famous buildings with which the city of Athens was adorned. I shall place the Piræum at the head of the rest, because that port contributed most to the grandeur and power of Athens. Before Themistocles, it was a simple hamlet, the Cor. Nep. Athenians, at that time, having no port but Pha- in Thelerus, which was very small and incommodious. Plut. in Themistocles, whose defign was to make the whole Themist. force of Athens maritime, rightly observed, that, P. 121. Thucyd, to accomplish a defign truly worthy of so great a c. 1. p. 62. man, it was necessary to provide a secure retreat Pausan. t. for a very confiderable number of ships. He cast &c. his eyes upon the Piræum, which, by its natural fituation, afforded three different ports within the same inclosure. He immediately caused it to be worked upon with the utmost dispatch, took care to fortify it well, and foon put it into a condition to receive numerous fleets. This port was about two leagues (forty stadia) from the city; an ad-VOL. I. vantageous

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vantageous situation, as Plutarch observes, for removing from the city the licentiousness which generally prevails in ports. The city might be supported by the Piræum, and the Piræum by the city, without prejudice to the good order it was necessary to observe in the city. Pausanias mentions a great number of temples, which adorned this part of Athens, that in a manner formed a

second city distinct from the first.

Cic. 1. 1. de orat. n. 62.

Pericles joined these two parts by the famous wall, that extended two leagues, and was the beauty and fecurity of both the Piræum and the city: it was called the long wall. Demetrius Phaleræus, whilft he governed Athens, applied himself particularly in fortifying and embellishing the Piræum. The arfenal, built at that time, was looked upon as one of the finest pieces of work Greece ever had. Demetrius gave the direction of it to Philo, one of the most famous architects of his time. He discharged that commission with all the success which could be expected from a man of his reputation. * When he gave an account of his conduct in the public affembly, he expressed himself with so much elegance, perspicuity, and precision, that the people of Athens, excellent judges in point of eloquence, conceived him as fine an orator as he was an architect, and admired no less his talent for Vitr. 1. 7. speaking than his ability for building. The same philosopher was charged with the alterations it was thought proper to make in the magnificent temple of Ceres and Proserpine at Eleusis, of which I shall foon fpeak.

in præfat.

To return to Pericles, it was under his equally long and glorious government, that Athens, in-

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Plut. in Pericl. p. 158.

^{*} Gloriantur Athenæ armamentario suo, nec sine causa: est enim illud opus & impensa & elegantia visendum. Cujus architectum Philonem ita facunde rationem institutionis suæ in theatro reddidisse constat, ut disertissimus populus non minorem laudem eloquentiæ ejus, quam arti tribuerit. Val. Max. 1. 8. c. 12.

riched with temples, porticoes, and statues, became the admiration of all the neighbouring states, and rendered herself almost as illustrious by the magnificence of her buildings, as she was for the glory of her military exploits. Pericles, finding her the depositary and dispenser of the public treasures of Greece, that is to say, of the contributions paid by the several states, for the support of troops and sleets, believed, after having sufficiently provided for the security of the country, that he could not employ the sums that remained to better purpose, than to adorn and improve a city, that was the honour and

great defence of all the reft.

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I do not examine here whether he were in the right or not; for this conduct was imputed to him as a crime; nor whether this use of the public money was conformable to the intention of those who supplied it: I have faid elsewhere what we ought to think of it; and content myself with observing. that a fingle man inspired the Athenians with a tafte for all the arts; that he fet all the able hands at work, and raifed so lively an emulation amongst the most excellent workmen in every kind, that, folely intent upon immortalizing their names, they used their utmost endeavours, in all the works confided to their care, to furmount each other, and furpass the magnificence of the design by the beauty and spirit of the execution. One would have believed, that there was not one of those buildings but must have required a great number of years, and a long fuccession of men, to compleat it: and yet, to the altonishment of every body, they had been all carried to so supreme a degree of perfection during the government of one man; and that too in no confiderable number of years, confidering the difficulty and excellency of workmanship.

Another confideration, which I have already touched upon elsewhere, still infinitely exalts their K 2 value:

value: I only copy Plutarch in this place, and should be very glad if I could come near the energy and vivacity of his expressions. Facility and expedition do nor generally communicate folid and lasting graces, nor perfect beauty to works: but time, united with labour, pays delay with usury, and gives the same works a force capable of preserving, and of making them triumph, through all ages. This renders the works of Pericles the more admirable, which were finished in so short a time, and yet had fo long a duration. For, from the moment they came from the workman's hands, they had the beauty and spirit of antiques; and even now, fays Plutarch, that is to fay, about fix hundred years after, they have the freshness of youth, as if but lately finished; so much do they still retain a bloom of grace and novelty, that prevents time itself from diminishing their beauty, as if they posfessed within themselves a principle of immortal youth, and an animating spirit incapable of growing old.

Plutarch afterwards mentions feveral temples and fuperb edifices, in which the most excellent artists had been employed. Pericles had chosen Phidias to preside in erecting these structures. He was the most famous architect, and, at the same time, the most excellent sculptor and statuary of his times. I shall speak of him presently, when I come to

treat of the article of sculpture.

3. The Maufolæum.

The superb monument which Artemisia erected for her husband Mausolus, king of Caria, was one of the most famous buildings of antiquity, as it was thought worthy of being ranked amongst the seven wonders of the world. I shall cite, in the following article upon sculpture, what Pliny says of it.

4. City and light-house of Alexandria.

It is natural to expect, that whatever derives itfelf from Alexander, must have something great, noble, and majestic in it; which are the characters of the city he caused to be built, and called after his name in Egypt. He charged Dinocrates with the direction of this important undertaking. The

history of that architect is very singular.

He was a Macedonian. Confiding in his genius Vitr. in and great ideas, he fet out for the army of Alex- præfat.l.2. ander, with design to make himself known to that prince, and to propose views to him as he conceived would fuit his tafte. He got letters of recommendation from his relations and friends to the great officers and leading men at the court, in order to obtain a more easy access to the king. He was very well received by those to whom he applied, who promised to introduce him as soon as possible to Alexander. As they deferred doing it from day to day, under pretence of wanting a favourable opportunity, he took their delays to imply evalion, and resolved to present himself. His stature was advantageous, his visage agreeable, and his address spoke a person of condition. Relying therefore upon his good mien, he stripped himself of his usual habit, anointed his whole body with oil, crowned himfelf with a wreath of poplar, and throwing a lion's skin over his shoulders, took a club in his hand, and in that equipage approached the throne, upon which the king fat difpenfing justice. The novelty of his fight having opened his way through the crowd, he was perceived by Alexander, who, furprised at his appearance, ordered him to approach, and asked him who he was. He replied, "I am Dinocrates the Macedonian, " an architect, who bring thoughts and defigns to K 3 " Alex-

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" Alexander worthy his greatness." The king gave him the hearing. He told him, that he had formed a defign of cutting mount Athos into the form of a man, that should hold a great city in his left hand, and in his right a cup to receive all the rivers, which ran from that mountain, and to pour them into the sea. Alexander, relishing this gigantic defign, asked him whether there were lands enough about this city to supply corn for its subfiftence? And having been answered, that it would be necessary to bring that by sea, he told him that he applauded the boldness of his design, but could not approve the choice of the place he had pitched upon for the execution of it. He however retained him near his person, adding, that he would employ his ability in other undertakings.

Alexander accordingly, in the voyage he made

into Egypt, having discovered a port there, that was very well sheltered and of easy access, surrounded by a fertile country, and abounding with conveniencies on account of its neighbourhood to the Nile, he commanded Dinocrates to build a city adjoining to it, which was called Alexandria, after his name. The architect's skill and the prince's magnificence vied with each other in embellishing it, and seemed to exceed themselves in order to render it one of the greatest and most su-Strab.1.17. perb cities of the world. It was inclosed within p 791, &c, a vast extent of walls, and fortified with towers. It had a port, aqueducts, fountains, and canals of great beauty; an almost infinite number of houses for the inhabitants, squares, lofty edifices, public places for the celebration of games and shews; in a word, temples and palaces fo spacious, and in so great a number, that they took up almost a third part of the whole city. I have observed elsewhere in what manner Alexandria became the center of the commerce of the east and west.

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A considerable structure, afterwards erected in the neighbourhood of this city, still rendered it more famous; I mean the light-house of the island of Pharos, Sea-ports were usually fortified with towers, as well for their defence, as to guide those who sailed in the night, by the means of fires kindled upon them. These towers were at first of a very simple species: but Ptolomæus Philadelphus caused one so great and magnificent to be erected in the island of Pharos, that some have ranked it amongst the wonders of the world: it cost eight hundred talents, that is to say, one million eight hundred thousand livres.

The isle of Pharos was about seven stadia, or strab.ibid. something more than a quarter of a league, from Plin. 1. 36. the continent. It had a pomontory or rock against which the waves of the sea broke. It was upon this rock Ptolomæus Philadelphus built the tower of Pharos of white stone, of surprising magnificence, with several arched stories not unlike the tower of Babylon, which had eight such stories. He gave the direction of this work to a celebrated architect called Sostratus, who cut this inscription upon the tower: Sostratus of Cnidos, son of Dexiphanes, to the gods preservers, in favour of those who go by sea. In the history of Philadelphus, the reader may see what has been said upon this inscription.

An author, who lived about fix hundred years The Nubiago, speaks of the tower of Pharos, as of an edifice an Geographer. Substituting in his time. The height of the tower, according to him, was three hundred cubits, that is to say, four hundred and fifty feet, or an hundred and fifty yards. A manuscript scholiast upon st. Voss. Lucian, cited by Isaac Vossius, affirms, that for ad Pomp. its size it might be compared with the pyramids of p. 205. Egypt; that it was square, that its sides were almost a stadium, near two hundred and eight yards; that its top might be descried an hundred miles, or

about thirty or forty leagues.

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Tzetzes Chil. 2. hift. 33. This tower foon took the name of the island, and was called Pharos; which name was afterwards given to other towers erected for the same use. The ifle on which it was built became a peninfula in process of time. Queen Cleopatra joined it to the main land by a mole, and a bridge from the mole to the island: a considerable work, in which Dexiphanes, a native of the ifle of Cyprus, prefided. She gave him by way of reward a confiderable office in her court, and the direction of all the build-

ings she afterwards caused to be erected.

We find from more than one example, that expert architects were very much honoured and efteem-Vitr. 1 10, ed amongst the antients. The inhabitants of Rhodes had fettled a confiderable pension upon Diognetus. one of their citizens, to reward him for the machines of war which he had made for them. It happened that a foreign architect, who called himself Callias, had made a model in little, of a machine capable, as he pretended, of lifting and removing any weight whatfoever, and thereby excelling all other machines. Diognetus, judging the thing abfolutely impossible, was not ashamed to confess that it surpassed his skill. The pension of the latter was transferred to Callias, as far the more expert artist. When Demetrius Poliorcetes was preparing to make his terrible Helepolis approach the walls of Rhodes, which he belieged, the inhabitants called upon Callias to make use of his machine. He declared: it to be too weak to remove so great a weight. The Rhodians then perceived the enormous fault they had commmitted, in treating a citizen to whom they had fuch great obligations with fo much ingratitude. They befeeched Diognetus in the most earnest manner to affist his country, exposed to the utmost danger. He refused at first, and remained for some time inflexible to their intreaties. when he faw the priefts, and the most noble children

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of the city, bathed in their tears, come to implore his aid, he complied at last, and could not withstand so moving a spectacle. The question was to prevent the enemy's approaching their formidable machine to the wall. He effected it without much difficulty, having laid the land under water, over which the Helepolis was to pass, which rendered it absolutely useless, and obliged Demetrius to raise the siege, by an accommodation with the Rhodians. Diognetus was loaded with honours, and double his former pension settled upon him.

5. The four principal temples of Greece.

Vitruvius fays, that there were amongst others vitruv. in four temples in Greece, entirely built of marble, præf. 1. 7. and adorned with fuch exquisite ornaments, that they were the admiration of all good judges, and became the rule and model of buildings in the three orders of architecture. The first of these structures is the temple of Diana at Ephefus. The fecond that of Apollo in the city of Miletus: Both these were of the Ionic order. The third is the temple Her. I. 3. of Ceres and Proserpine at Eleusis, which Ictinus c. 65. Strab. 1.9. built in the Doric order, of extraordinary dimen- p. 395. fions, capable of containing thirty thousand perfons: for there were as many, and often more, at the celebrated procession of the feast of Eleusis. This temple at first had no columns without, in order to leave the more room for the facrifices. But Philo afterwards, when Demetrius Phaleræus governed Athens, placed fome pillars in the front, to render the edifice more majestic. The fourth is the temple of Jupiter Olympius at Athens, of the Corinthian order. Pisistratus had begun it, but vitr. ibid. it remained unfinished after his death, upon account of the troubles in which the republic was involved. More than three hundred years after, Antiochus Epiphanes,

Liv. 1. 41. Epiphanes, king of Syria, took upon him to defray the expences that were necessary for finishing
the body of the temple, which was very large, and
the columns of the portico. Cossuitius, a Roman
citizen, who had made himself famous amongst
the architects, was chosen to execute this great
work. He acquired great honour by it, this pile
being esteemed to have very sew equal to it in magnisicence. The same Cossuitius was one of the first
amongst the Romans who built in the Grecian taste.
He gives me occasion to speak of several edifices at
Rome, which often employed Greek architects, and

thereby in some measure to resume my plan.

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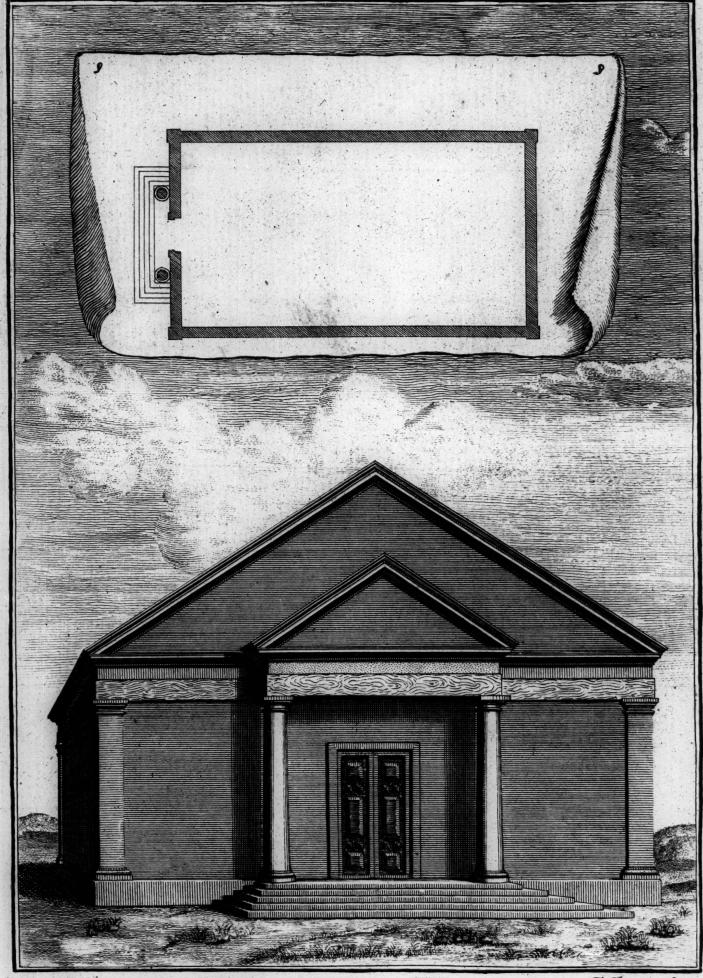
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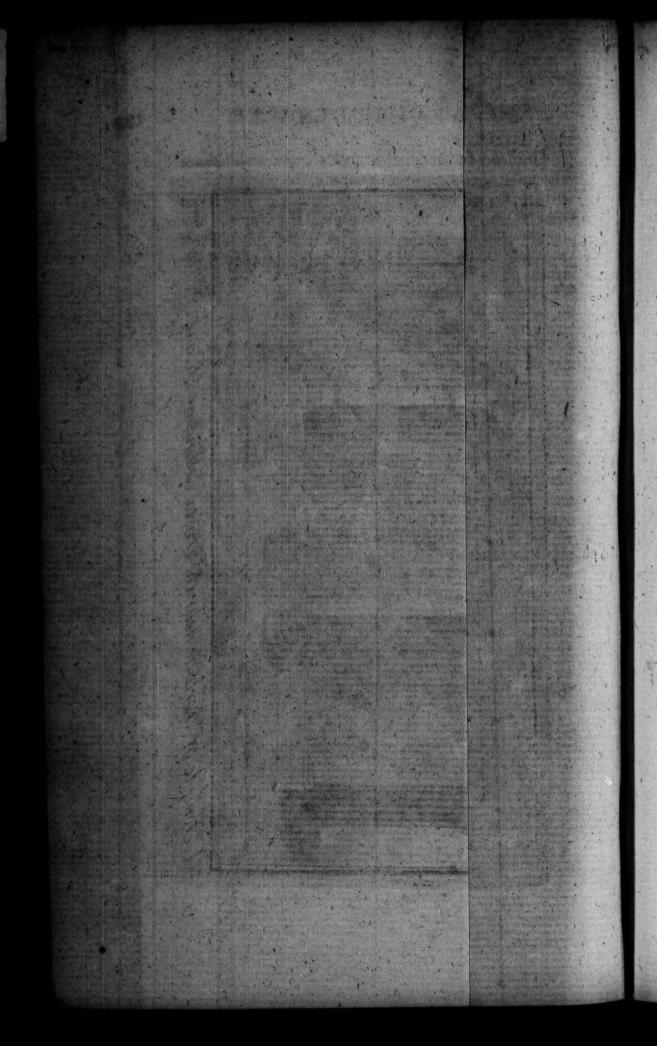
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I. Temple of Fortune near the Porta Collina at Rome. J. Bafire foulp.



[In order to render this article upon architecture the more useful and entertaining, it was thought proper to add here the following plates of the seven different kinds of ancient temples, with a brief description of each of them. The reader may observe that all the different orders of architecture are introduced in them.

TEMPLE I. Plate 3.

Of Fortune.

Parastata, because they had no pillars at their angles, but only pilasters, which the ancients called Ancæ or Parastatæ. The examples Vitruvius gives of them are three temples of Fortune at Rome, especially that near the Porta Collina. As he does not describe it particularly, Mr. Perrault thought proper to make it of the Tuscan order, which suits the most simple of all temples, and an Arastyle, that is to say, one having sew pillars. There was a necessity for giving it a double pediment upon account of its having two different coverings, that of the temple, and that of the portico, supported by the two Tuscan pillars. The height of those pediments, according to Vitruvius, was considerable.

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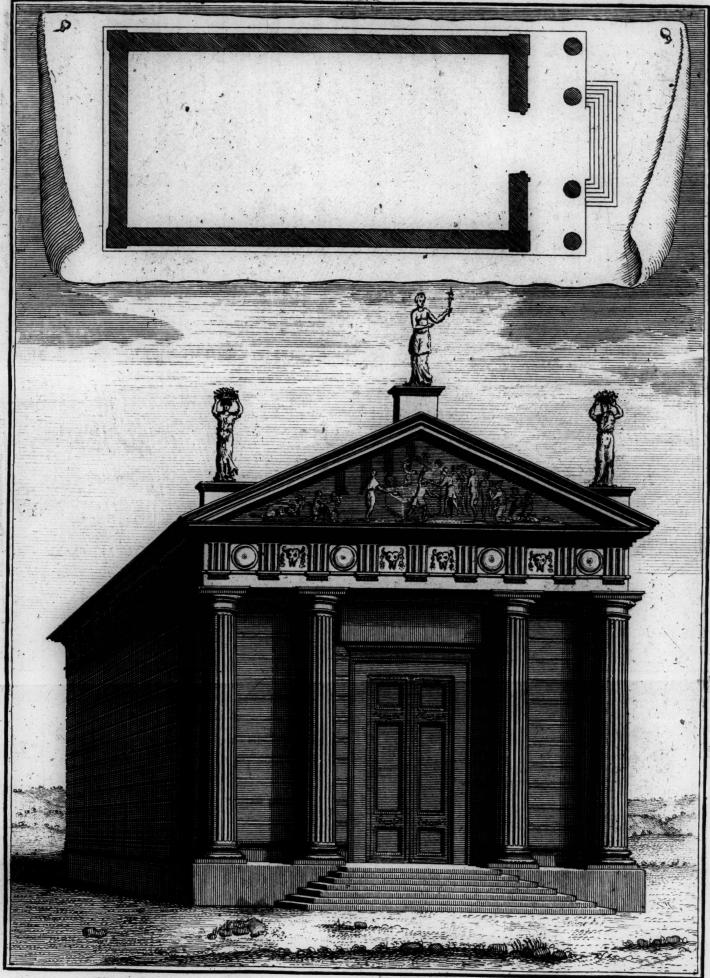
TEMPLE II. Plate 4.

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Of Ceres and Proserpine at Eleusis.

HIS fecond species of temple was called Proftylos, from having pillars only in front. It is called also Tetrastylos, that is to say, having four pillars in front. The example of this is the temple of Ceres Eleusina, mentioned above as one of the four principal temples of Greece. It was begun by Ictinus, and finished by Philo, who made it a Proftyle or Tetrastyle, by adding columns to its front. The baffo relievo in the pannel of its pediment represents a piece of history related by Paufarias, who fays, that, near the temple of Ceres Eleufina, were two large stones, that lay upon one another, from between which the priefts went annually in procession to take a writing, that contained the ceremonies to be observed in the facrifices during the rest of the year. And because the ancients used to represent upon the pediments of their temples the particular manner in which the facrifices were performed in them, and the facrifices of this temple, which changed every year, could not be represented, it was thought proper to put this piece of history upon the front of it, as it shews one of the principal circumstances relating to these ceremonies; which was to take the writing, that prescribed the order to be observed in the sacrifices during the year, from betwixt the stones.



II. Temple of Ceres & Proserpine at Eleufis.

III. Temple of Concord at Rome. J. Basire Soulp.

TEMPLE III. Plate 5.

Of Concord at Rome.

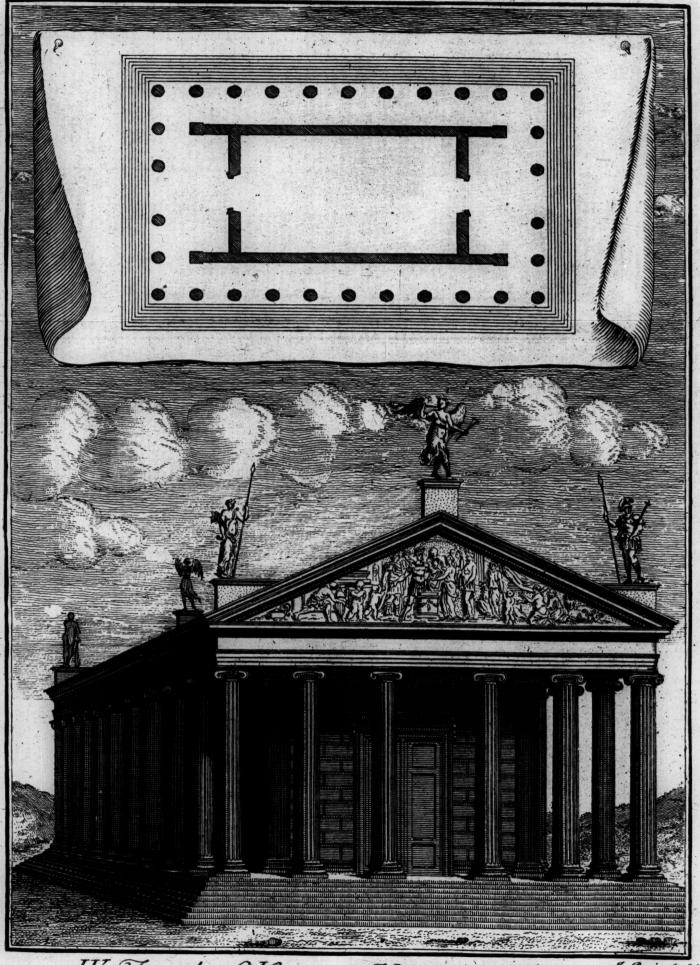
THIS kind of temple is called Amphiprostylos, that is, a double Prostyle, having pillars both before and behind it. It is also a Tetrastyle, as well as a Prostyle. This example is of the Composite order, for the sake of diversifying the plates; and is taken from the ruins of the temple of Concord still to be seen at Rome. It is called Composite, from being composed of the Ionic and Corinthian orders, having the volutes and eggs of the former, and the plinth of the latter.

adds a currentiative, confied by third site, that makes for the fame offect: restrict this couple had no reference, or tested by all the courts had which importes, that is independly a ecology to puls through a new pointes are required and information of the her volumes to require and informational time to lay, to reflevels and instructional there is all six closer deligned, cancer which there is all six closer deligned, cancer that the court is all six closer deligned, cancer than a court of the court is a less and the court is a court thinds of temples.

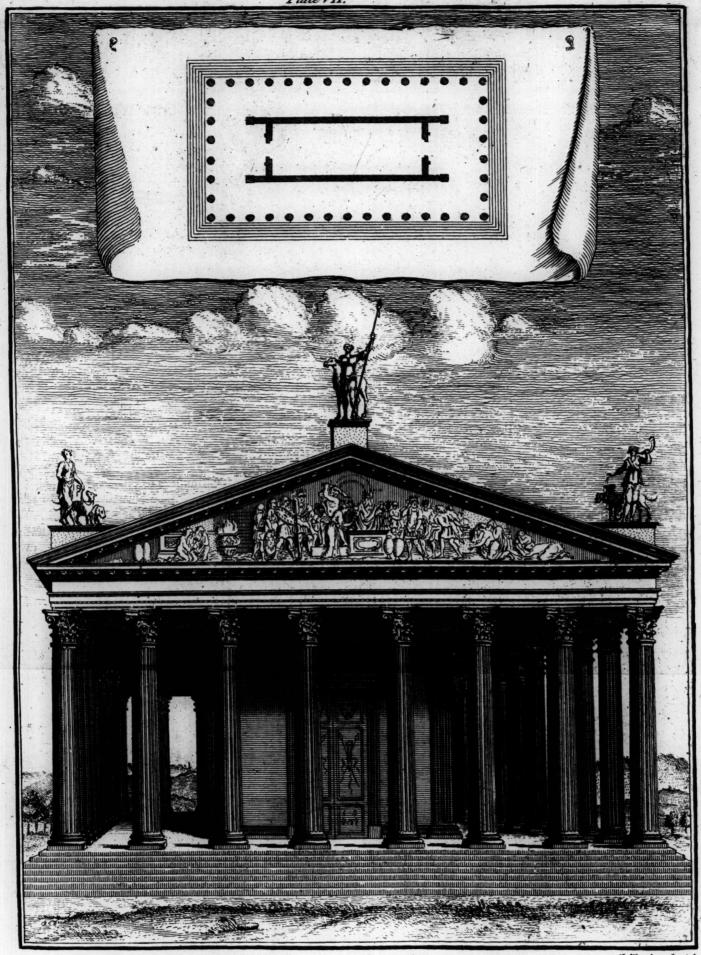
TEMPLE IV. Plate 6.

Of virtue and bonour at Rome.

HIS fourth kind of temple is called Periptera, from having pillars all around it. It is an Hexastyle, that is, having fix pillars in front: it has eleven on each fide, including those at the corners. The example Vitruvius gives of it is the temple of vir ue and honour built by Marius. and adorned with a portico all around it by Mutius the architect. St. Augustin mentions this temple, and tells us, that the fore-part of it was dedicated to virtue, and the back-part to honour, in order to establish a refined morality; to which Vitruvius adds a circumstance, omitted by that Saint, that makes for the same effect: viz. that this temple had no posticum, or back-door, as most others had: which intimates, that it is not only necessary to pass through virtue to arrive at honour, but that honour obliges her votaries to return also through virtue. that is to fay, to perfevere and improve in it. In the plan there is a back-door defigned, conformably to what Vitruvius lays down as effential to this kind of temples. The elevation is of the Ionic order, that all the orders might be here represented (as is faid before) with all the different kinds of temples.



IV. Temple of Virtue & Honour at Rome. J. Saire Sculp.



V. Temple of Diana in the City of Magnesia. "Basine Sculp!

TEMPLE V. Plate 7. Of Diana in the city of Magnesia.

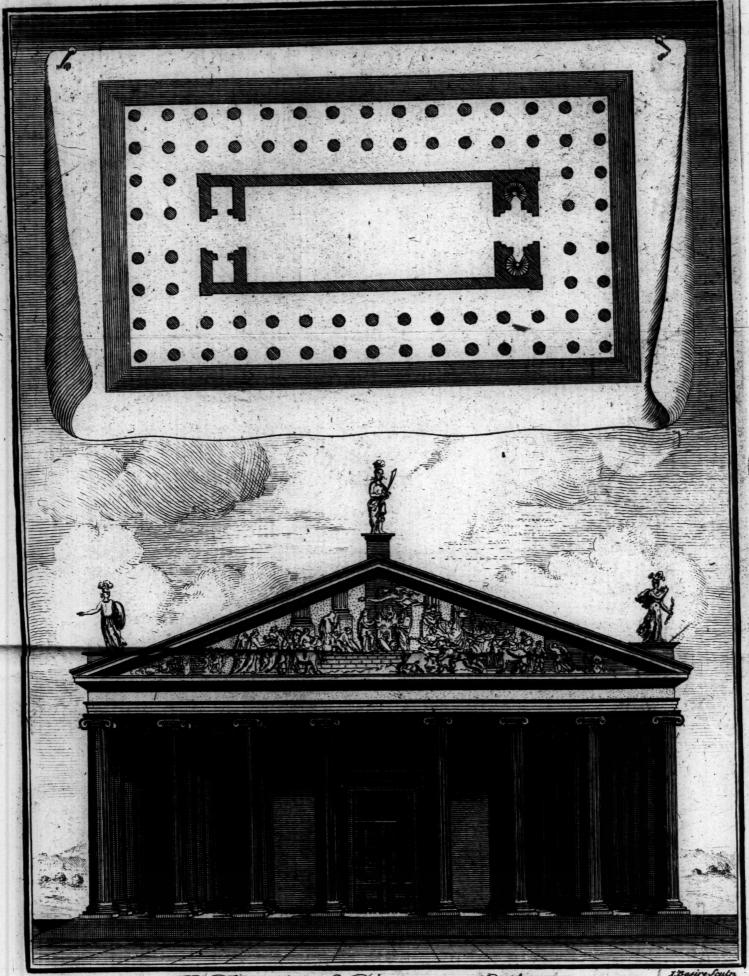
HIS fifth kind of temple is called Pseudodiptera, that is, false or imperfect Diptera, because it had not the double rows of pillars which the Diptera had. It is an Octoftyle, that is, having eight pillars in front; and a Syftyle, or having its pillars close, there being only two diameters of a pillar between each of them. It has fifteen pillars on the fides, including those at the corners. Vitruvius fays, there were no examples of this kind of temple at Rome, wherefore he cites that of Diana at Magnesia, built by Hermogenes Alabandinus, the first and most celebrated architect of antiquity, who was the inventor of this kind of temple. The space between the walls and the pillars was two intercolumniations, and the breadth of the base of a pillar, or five diameters of a pillar. There was also a temple of Apollo of this kind at Magnesia, built by Mnestes. mercore and in the shat; became the fame nurhor

thys, literativers thans to cooking to the technology. Business all of a trices out of one tree, and that a

TEMPLE VI. Plate 8.

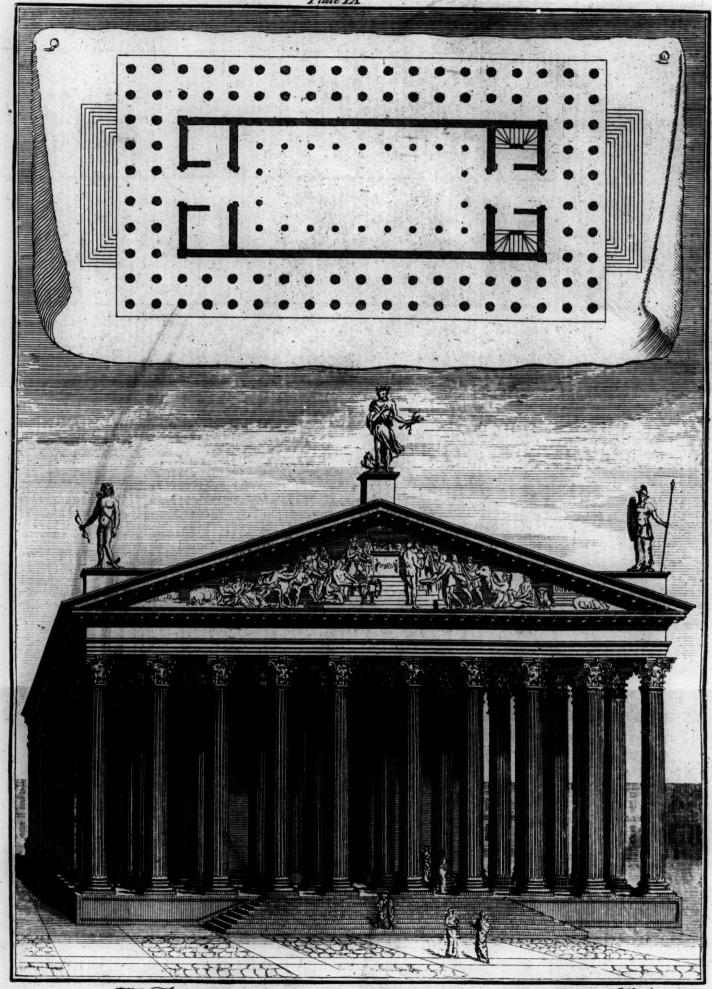
Of Diana at Ephefus.

HIS fixth kind of temple is called Diptera. from having two rows of pillars all round it. It is an Octoffyle, that is to fay, having eight pillars in front of the Ionic order, according to the example cited by Vicruvius, which is the temple of Diana at Ephefus built by Cteliphon, the first of the four principal temples of Greece: Pliny tells us, it had been seven times rebuilt. It is reprefented in the plate as an Euftyle, that is to fay, having its intercolumniations of two diameters, and the fourth of a pillar, in order to render it in forme measure conformable to the proportions given it by Pliny; for which reason also the space between the two middle pillars is fomewhat larger than ordinary. For Pliny tells us, that the architrave in the middle was fo exceeding large, that it was feighted the goddess placed it there herself, upon the architect's despairing of being able to do it. Stairs are represented in the plan; because the same author fays, there were stairs to go up to the top of it; made all of a piece out of one tree, and that a vine too.



VI Temple of Diana at Ephesus.

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VII. Temple of Supiter Olimpius at Athens.

J. Basire Sculp.

TEMPLE VII. Plate 9:

6. Combinated and sensolat Kenno.

Of Jupiter Olympius at Athens.

HE seventh kind of temple is called Hypetra, that is, open and exposed to the weather. It is a Decastyle, having ten pillars in front; and a Pycnostyle, that is to fay, having its pillars close to each other, Vitruvius says, there were no temples of that kind at Rome, and gives that of Jupiter Olympius as an example of it; which, he tells us, in the preface of his feventh book, was built at Athens by Coffutius, a Roman architect. Paufanias fays, it had pillars within it that formed a Peristyle, which is effential to this kind of temple: but this Peristyle could be represented on this plate only in the plan. Paufanias also relates the ceremony represented on the pediment; which is the priest dawbing the altar of Jupiter with a mixture of ashes brought from the Prytanæum, and the water of the river Alpheus; this was done every year on the nineteenth of February. He tells us besides, that there was an afcent to this altar of feveral tteps. Loods vale randed strain of the shorteness own new test and a second strain of the total of the second strains of the second iteps.]

The fine of Taxon tous College ruled two other works not forthered a creating of the control of the bor the more considerable in Tracal to Inbour and

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c. 13.

6. Celebrated buildings at Rome.

The art of building was almost as soon known in Italy as Greece, if it be true, that the Tuscans had not had any communication with the Greeks, when they invented the particular order, which retains Plin. 1. 36. their name to this day. The tomb which Porfenna, king of Etruria, caused to be erected for himself, during his life-time, shews the great knowledge they had in those days of this art. This structure was of stone, and built almost in the same manner as the labyrinth of Dædalus in the island of Crete, if the tomb were fuch as Varro has described it in

a passage cited by Pliny.

Tarquinius Priscus had a little before erected very confiderable works at Rome. For it was he who first inclosed that city with a wall of stone, and laid the foundations of the temple of Jupiter Capitolinus, which his grandfon Tarquinius Superbus finished at a great expence, having for that purpose called in the best workmen from Etruria. The Roman citizens were not dispensed with from sharing in that work, which, though very * painful and laborious, being added to the fatigues of war, they did not think too heavy; so much joy they conceived, and fo much honour they thought it, to build the temples of their gods with their own hands.

The same + Tarquinius Priscus raised two other works, not so splendid indeed in outward appearance, but far more confiderable in regard to labour and

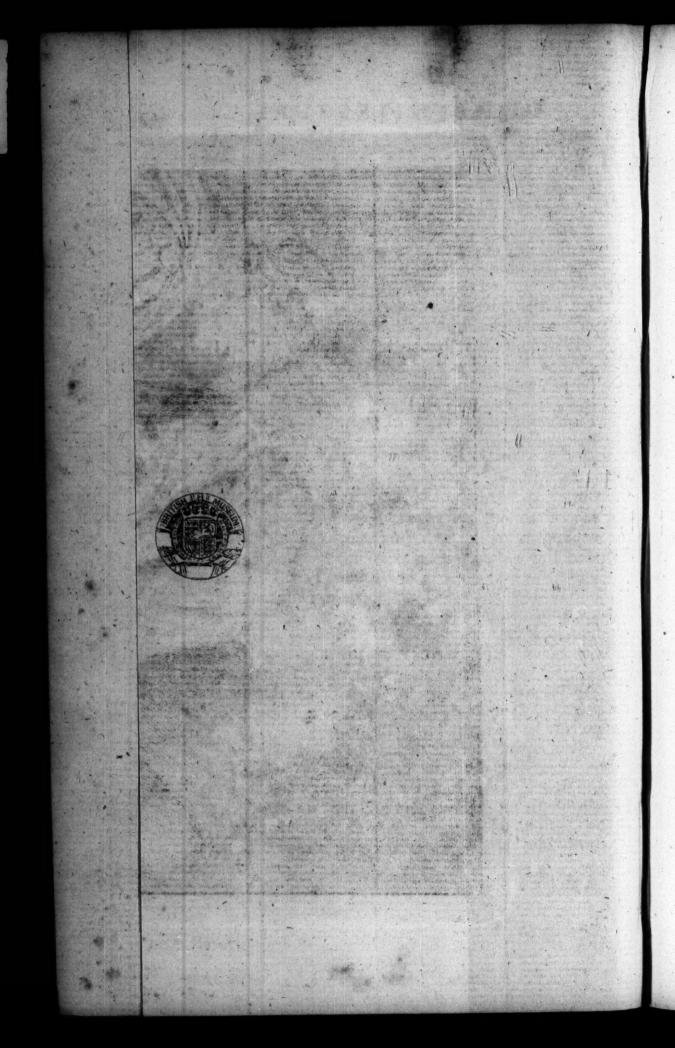
* Qui cum hand parvus & ipse militize adderetur labor, minus tamen plebs gravabatur, se templa deum exædificare manibus suis. Liv. l. 1. n. 56.

expence:

[†] Quæ (plebs) posthac & ad alia, ut specie minora, sic laboris aliquanto majoris, traducebatur opera: fores in circo faciendas, cloacamq; maximam receptaculum omnium purgamentorum urbis fub terram agendam: quibus duobus operibus vix nova hæc magni-Acentia quicquam adequare potuit. Liv. ibid.



Fragmentum picturæ veteris in pariete factæ, Romæ anno MDCCXXXVII inter palatii — Cæsaris Augusti rudera, ubi nunc sunt horti Farnesiani, in monte Palatino repertum, in quo seæ figuræ arte eæquisita et nitidis coloribus sunt expressæ; quarum una exhibetur Augustus ipse sedens, et coronam alicui (cujus imago est abrupta) protendens; ceteris aulice adstantes, interquos Mæcenas toga cærulea indutus; et pouc eum M. Agrippa humero ejus dextram impanens; proutharum imaginum cum nummis corum gemmisque similitude estendit. Exmuleo viri illultris R. Mead. M.D.



expence: works, fays Livy, to which the magnificence of our days, in its most supreme degree, has scarce been capable of producing any thing com-

parable.

One of these works was the subterraneous sewers and canals that received all the dirt and filth of the city; the remains of which still raise admiration and astonishment from the boldness of the undertaking, and the greatness of the expence it must necessarily have cost to compleat it. And, indeed, of what thickness and solidity must these vaulted water-courses have been, which ran from the extremity of the city as far as the Tyber, to support, for so many ages, without ever giving way in the least, the enormous weight of the vast streets of Rome erected upon them, through which an infinity of carriages of immense weight were continually passing!

M. Scaurus, to adorn the stage of a theatre Plin. 1. 36,

during his edileship, which was to continue only a c. 2. month at most, had caused three hundred and sixty columns of marble to be prepared, many of which were thirty-eight seet high. When the time for the shews was expired, he had all those pillars carried into his own house. The undertaker, for making good the common sewers, obliged that edile to give him security for repairing the damage, that the carriage of so many heavy pillars might occasion to those vaults, which from the time of Tarquinius Priscus, that is to say, for almost eight hundred years, had continued immoveable, and still bore so excessive a load without giving way.

Besides which, these subtervaneous canals contributed exceedingly to the cleanliness of the houses and streets, as well as to the purity and wholesomeness of the air. The water of seven brooks, which had been united together, and which was frequently turned into these subterraneous beds, cleansed them

doidw, before sew soling L 2 of figure by, entirely,

entirely, and carried off along with them all the

fifth into the Tyber.

Works of this kind, though hid under the earth, and buried in darkness, will no doubt appear to every good judge more worthy of praise, than the most magnificent edifices, and most superb palaces. These suit the majesty of kings indeed, but do not exalt their merit, and, properly speaking, reflect no honour but on the skill of the architect: whereas the others argue princes, who know the true value of things; who do not fuffer themselves to be dazzled by false splendor; who are more intent upon the public utility than their own glory; and who are studious to extend their services and beneficence to the latest posterity: objects worthy the ambition of a prince!

After the Tarquins were expelled Rome, the people, having abolished monarchical government, and refumed the fovereign authority, were folely intent upon extending the bounds of their empire. When, in process of time, they came to have more commerce with the Greeks, they began to erect more superb and more regular buildings. For it was from the Greeks that the Romans learned to excel in architecture. Till then their edifices had nothing to recommend them but their folidity and magnitude. Of all the orders they knew only the Plin. 1. 35. Tufcan. They were almost entirely ignorant of fculpture, and did not even use marble: at least they neither knew how to polish it, nor make pillars and other works of it, that by their beauty

It was not, properly speaking, till towards the latter times of the republic, and under the emperors, that is to fay, when luxury was grown to a great height at Rome, that architecture appeared there in all its fplendor. What a multitude of superb buildings and magnificent works were erected, which

and excellent workmanship might make a magnificent appearance when applied in proper places.

ftill

still adorn Rome! The pantheon, the baths, the amphitheatre called the Colifæum, the aqueducts, the causeways, the pillars of Trajan and Antonine, and the famous bridge over the Danube, built by the order of Trajan. This work alone would have Dio. 1. 68. fufficed to have immortalized his name. It had p. 776. twenty piles to support the arches, each fixty feet thick, and hundred and fifty high, without including the foundations, and an hundred and feventy feet distant from one another, which makes in all a breadth of fifteen hundred fourscore and ten yards. This was, however, that part of the whole country in which the Danube was narrowest, but at the same time deepest and most rapid; which seemed an obstacle not to be surmounted by human industry. It was impossible to make dams in it for laying the foundation of the piles. Instead of which, it was necessary to throw into the bed of the river a prodigious quantity of different materials, and by that means to form a kind of bases equal to the height of the water, in order afterwards to erect the piles upon them, and the whole superstructure of the bridge. Trajan made this bridge with the view of using it against the Barbarians. His successor Adrian, on the contrary, apprehended its being used by the Barbarians against the Romans, and caused the arches of it to be demolished. Apollodorus of Damascus was the architect who presided in erecting this bridge: he had been employed in many other works by Trajan. His end was very unfortunate.

The emperor Adrian had caused a temple to be Dio. 1. 69. built in honour of Rome and of Venus, at the ex- P. 789, tremities of which they were placed, each fitting 790. upon a throne: there is reason to believe that he had drawn the plan, and given the dimensions himfelf, because he piqued himself upon his excelling in all arts and sciences. After it was built, Adrian fent the draught of it to Apollodorus. He remembered.

bered, that, one day inclining to give his opinion upon a building Trajan was discoursing about to Apollodorus, that architect had rejected what he faid with contempt, as talking of what he did not understand. It was therefore by way of insult, and to shew him that something great and perfect might be done without him, that he fent him the defign of this temple, with express order to let him know. his opinion of it. Apollodorus was naturally no flatterer, and faw plainly the affront intended him. After having praised the beauty, delicacy, and magnificence of the building, he added, that, fince he was ordered to give his opinion of it, he could not deny but it had one fault; which was, that, if the goddesses should have an inclination to rise up. they would be in danger of breaking their heads, because the arch of the roof was too confined, and the temple not high enough. The emperor was immediately fensible of the gross and irreparable fault he had committed, and was inconfolable upon it. But the architect paid for it, and his too great ingenuity, which was not perhaps fufficiently referved and respectful, cost him his life.

Sucton, in

Dened.

I have not ranked, in the number of the magni-Ner. c. 31. ficent buildings of Rome, the palace called the Golden House, which Nero caused to be erected there, though perhaps nothing like it was ever feen, either for the extent of its walls, the beauty of its gardens, the number and delicacy of its porticoes, the fumpruofity of its buildings, or the gold, pearls, jewels, and other precious materials with which it glittered. I do not think it allowable to give the name of magnificence to a palace built with the spoils, and cemented with the blood of the Roman citizens. Whence, fays Suetonius, the buildings of Nero were more destructive to the empire than all his other follies: Non in alia re damnostor quam in adificando.

Cicero had passed a still more severe judgment Cic. 1. 2. upon it, who held no expences to be really laud-de offic. able, but such as had the public utility in view; as the walls of cities and citadels, arsenals, ports, aqueducts, causeways, and others of a like nature. He carried his rigour so far, as to condemn theatres, piazza's, and even new temples; and supported his opinion by the authority of Demetrius Phaleræus, who absolutely condemned the excessive expences of Pericles in such structures.

The fame Cicero makes excellent reflections upon Cic. 1. 1. the buildings of private persons: for there is cer-de offic. n. tainly a difference to be made in this point, as well 139, 140. as all others, in regard to princes. * He is for having persons of the first rank in the state lodged in an honourable manner, and that they should support their dignity by their habitations; but at the fame time that their houses should not be their principal merit, and that the master should do honour to the dwelling, and not the dwelling to the mafter. He recommends to the great men that build carefully to avoid the excessive expences incurred by the magnificence of structures: expences, which become of fatal and contagious example to a city; the generality not failing, and making it a merit to imitate, and fometimes even to exceed, the great. Palaces thus multiplied are faid to do honour to a city. They rather dishonour it, because they corrupt it, by rendering luxury and pomp continually necessary, by the costliness of furniture, and the other expensive ornaments, required in lofty buildings; which are, besides, often the cause of the ruin of families.

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^{*} Ornanda est dignitas domo, non ex domo dignitas tota quærenda: nec domo dominus, sed domino domus honestanda est—Cavendum est etiam, præsertim si ipse ædisices, ne extra modum sumptu & magnisicentia prodeas. Quo in genere multum mali in exemplo est: studiose enim pleriq; præsertim in hac parte, facta principum imitantur.

OF ARCHITECTURE

Caro, in his book upon rural life, gives very wife advice. When, fays he, to build is the question, we should deliberate a great while, (and often not build at all;) but, when to plant, we should not deliberate but plant directly.

Vitruv. præfat. . 10.

In case we build, prudence requires our taking good precautions. "Formerly, fays Vitruvius, there was a fevere but very just law at Epheus, by which the architects who undertook a " public building, were obliged to declare what it would coft, and to do it for the price they had demanded, for the performance of which their whole estate was bound. When the work was inished, they were publicly honoured and rewarded, if the expence was according to their "estimate. If the expence exceeded the agreement only a fourth, the public paid the furplus. But, if it went beyond that, the architect made good the deficiency. It were to be wished, continues Witruvius, that the Romans had fuch a regulation so in regard to their buildings, as well public as private: it would prevent the ruin of abundance nincence of ilructures; expences, "sandford form

This is a very just reflection, and argues a very estimable character in Vitruvius, and a great fund of probity, which indeed diftinguishes itself throughout his whole work, and does him no less honour than his great capacity. He followed his profesfion with a noble difinterestedness, very uncommon in those who practise it. + Reputation, not gain, was his motive. He had learned from his mafters. that an architect ought to flay till he is defired to un-

* Ædificare diu cogitare oportet, conserere cogitare non oportet, fed facere.

dertake

⁺ Ego autem, Cæfar, non ad pecuniam parandam ex arte dedi studium, sed potius tenuitatem cum bona fama quam abundantiam cum infamia sequendam probavi. Cæteri architecti rogant & ambiunt, ut architectentur: mihi autem a præceptoribus est traditum, rogatum non rogantem oportere suscipere curam, quod ingenuus color movetur pudore petendo rem suspiciosam. Nam beneficium dantes, non recipientes, ambiuntur. Vitruv.

dertake a work; and that he cannot, without shame, make a demand, that shews him interested in it: because every body knows people do not follicit others to do them good, but to receive it from them.

He requires in his profession an extent of know vitr. 1. 1. ledge, that occasions assonishment. According to . 1. him, an architect must be both ingenious and laborious: for capacity without application, and application without capacity, never make an excellent artist. He must therefore know how to design, understand geometry, not be ignorant of optics, have learnt arithmetic, know much of history, have well studied philosophy, with some knowledge of music, physic, civil law, and astronomy. He afterwards proceeds to shew particularly, in what manner each of these branches of learning may be useful to an architect.

When he comes to philosophy, besides the know-ledge necessary to his art, to be derived from physics, he considers it with regard to morals. The study of philosophy, says he, serves also to render the architect more compleat, who ought to have a soul great and bold, without arrogance, equitable and faithful, and, what is still more important, entirely exempt from avairies: for it is utterly impossible ever to do any thing well, or to attain any excellence without fidelity and honour. He ought therefore to be disinterested, and to have less in view the acquiring of riches, than honour and reputation, by architecture; never acting any thing unwor-

"thy of fo honourable a profession: for this is what philosophy prescribes."

Vitruvius has not thought fit to require in his architect the talent of eloquence, which it is often proper even to distrust, as a very happy saying Plutarch has preserved explains. It was occasioned by a considerable building that the Athenians in-

tended

tended to erect, for the execution of which two architects offered themselves to the people. The one, a fine speaker, but not very expert in his art, charmed and dazzled the whole assembly by the elegant manner in which he expressed himself in explaining the plan he proposed to follow. The other, as bad an orator as he was an an excellent architect, contented himself with telling the Athenians: * Men of Athens, I will do what he has said.

I conceived, that I could not conclude this article upon architecture better, than with giving some idea of the ability and manners of him, who, in the opinion of all good judges, practised and

may bourfeful as an architect.

Vence he courses to philosophy, is sides the knowledge necessary to his safe, to be derived from paying, he considers it with requiri to moials. In a faulty of philosophy, lays he ferve also faves a form that the reader the architect most consiplest, who it with the course of four space and boid; without the reagence, can obtain and season, and boid; when it with the moise and action, each of the course the course of the course the course of the course therefore to do any standard and the course therefore to be any course called and the course therefore to be a fall that and the course therefore to be a fall that and the course therefore to be a fall that and the course therefore to be a fall that a safe to have less in view and actions of the course of the cour

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water philosophy preferibes."

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CHAPTER IV.

SECT. I.

Of the different species of sculpture.

SCULPTURE is an art, which by the means of a design or plan and of solid matter, imitates the palpable objects of nature. Its matter is wood, stone, marble, ivory; different metals, as gold, silver, copper; precious stones, as agate, and the like. This art includes also catting or founding, which is subdivided into the art of making sigures of wax, and that of casting them in all sorts of metals. By sculpture I understand here all these

different species.

The sculptors and painters have often had great disputes amongst themselves upon the pre-eminence of their several professions; the first founding the preference upon the duration of their works, and the latter opposing them with the effects of the mixture and vivacity of colours. But, without entering into a question not easy to decide, sculpture and painting may be considered as two sisters, that have but one origin, and whose advantages ought to be common; I might almost say as the same art, of which design is the soul and rule, but which work in a different manner, and upon different materials.

It is difficult and little important to trace, thro' the obscurity of remote ages, the first inventors of sculpture. Its origin may be dated with that of the world, and we may fay that God was the first statuary, when, having created all beings, he seemed to redouble his attention in forming the body of man, for the beauty and perfection of which he seems to have wrought with a kind of satisfaction

and complacency.

Long after he had finished this master-piece of his all-powerful hands, he was willing to be honoured principally by the sculptor's application in building the ark of the covenant, of which himfelf gave the idea to the legislator of the Hebrews. But in what terms does he speak to the admirable artist he thought fit to employ in it? I have chosen, fays he to his prophet, a man of the tribe of Judah, and I have filled bim with the spirit of God, in wifdom, and in understanding, and in knowledge, and in all manner of workmanship. To devise cunning works, to work in gold, and in silver, and in bross. And in cutting of stones, to set them, and in cutting of timber, to work in all manner of workmanship. Does not this feem as if the question were the inspiration of the propher himself to give laws to his people. He fpeaks in the fame manner in respect to the workmen that are to build and adorn the temple of thentelves abon the malairal-

Nothing could exalt the merit of sculpture so much as so noble a destination, if it had suffilled it faithfully. But, long before the building of the temple, and even the tabernacle, it had shamefully prostituted itself for hire to idolatry, which by its means filled the world with statues of false divinities, and exposed them for the adoration of the people. * We find in the Scripture, that one of

Exodus

^{*} Also the singular diligence of the artificer did help to set forward the ignorant to more superstition. For he, peradventure, willing to please one in authority, forced all his skill to make the resemblance of the best sashion. And so the multitude, allured by the grace of the work, took him now for a god, who a little before, was but honoured as a man. And this was an occasion to deceive the world. Wisd. xiv. 18, 19, 20, 21.

the causes which had conduced most to the spreading of this impious worship, had been the extreme beauty which the workmen, in emulation of each other, had exerted themselves to give those statues: The admiration, excited by the view of these excellent works of art, was a kind of enchantment, which, by strongly affecting the senses, conveyed the illusion to the mind, and drew in the multitude. It is against this universal delusion Jeremiah admonished the Israelites to beware, when they should fee in Babylon the statues of gold and filver carried about in pomp upon the days of folemnity. At that time, fays the propher, when the whole multitude, filled with veneration and awe, shall prostrate themselves before the idols (for the captivity, in which the people of God were in a strange land, would not admit them to express themselves aloud) fay within yourselves: IT IS ONLY THOU, O'LORD, Baruch vi.

THAT OUGHT TO BE ADORED. It must be owned also that sculpture did not * contribute a little to the corruption of manners, by the nudity of the images, and representations contrary to modesty, as the Pagans themselves have confessed. I thought it proper to premise this remark, that, in what I shall say hereafter in praise of sculpture, the reader may see I distinguish the excellency of the art in itself, from the abuse which men have made of it.

The first sculptors made their works of earth, Plin. 1. 34whether they were statues, or moulds and models. c. 12. This made the statuary Pasiteles say, that the works which were either cast, or cut with a chissel or graver, owed their being to the art of making figures of earth, called Plastice. It is said that Demaratus, the father of Tarquinius Priscus, who took refuge from Corinth in Etruria, brought thither abundance of workmen with him, who ex-

Auxere & artem vitiorum irritamenta. Plin. Proæm. 1. 33.

celled in that art, and introduced the taffe for it there, which afterwards communicated itself to the rest of Italy. The statues erected in that country to the gods, were at first only of earth, to which, for their whole ornament, was added a red colour. We ought not to be ashamed of the men, says Pliny, who adored such gods. They set no value upon gold and silver, either for themselves or their deities. Juvenal calls a statue, like that erected by Tarquinius Priscus, in the temple of the sather of the gods:

Fictilis, & nullo violatus Jupiter auro.

A fove of earth, nor yet by gold profand.

A. M. golden or gilt statues at Rome. This was first done in the consulship of P. Corn. Cethegus, and M. Bæbius Tamphilus, in the 571st, or 573d year of Rome.

Plin. 1. 35. Portraits were afterwards made also of plaister e. 12. and wax, the invention of which is ascribed to Lysistratus of Sicyone, the brother of Lysippus.

We find that the antients made statues of alPausan. most all forts of wood. There was an image of
1.6. Apollo at Sicyone made of box. At Ephesus, acc. 40. cording to some writers, that of Diana was of cedar, as well as the roof of the temple. The lemon-tree, the cypress, the palm, the olive, the
ebony, the vine; in a word, all trees not subject
to rot, or to be worm-eaten, were used for statues.

Plin. 1. 36. Marble foon became the most usual, and the most esteemed material for works of sculpture. It is be-

boiles

quidem conficiebant. Plin.

† Acilius Glabrio duumvir, statuam auratam, que prima omnium in Italia statua aurata est, patri Glabrioni posuit. Liv. l. 40.

lieved

^{*} Hæ tum effigies deorum erant laudatissimæ. Nec poenitet nos illorum, qui tales deos coluere. Aurum enim & argentum ne dils quidem conficiebant. Plin.

lieved that Dipænes and Scyllis, both of Crete, were the first who used it at Sicyone, which was long, in a manner, the centre and school of arts:

They lived about the 50th olympiad, a little before A. M. Cyrus reigned in Persia.

Bupalus and Anthermus, two brothers, made themselves famous for the art of carving marble, in the time of Hipponax, that is to say, in the 60th olympiad. That poet had a very ugly face. A. M. They made his portrait in order to expose it to the 3464-laughter of spectators. Hipponax conceived a more than poetic sury against them, and made such virulent verses upon them, that, according to some, they hanged themselves through grief and shame. But this sact cannot be true, because there were works of their making after that time.

At first the artists used only white marble, Plin. 1. 36. brought from the isle of Pharos. It was reported, c. 6. that, in cutting these blocks of marble, they sometimes found natural figures of a Silenus, a god Pan, a whale and other fishes. Jasper and spotted marble became afterwards the fashion. It was brought principally from the quarries of Chio, and soon was commonly found in almost all countries.

It is believed, that the manner of cutting large blocks of marble into many thin pieces, to cover the walls of houses, was invented in Caria. The palace of king Mausolus at Halicarnassus is the most antient house that had these incrustations of marble, which were one of its greatest ornaments.

The use of ivory, in works of sculpture, was known from the earliest ages of Greece. Ho-Odys. A. mer speaks of them, though he never mentions v. 73-elephants.

The art of casting gold and silver is of the greatest antiquity, and cannot be traced to its origin. The gods of Laban, which Rachel stole, seem to have been of this kind. The jewels offered to Rebecca were of cast gold. Before the Israelites left

Egypt,

Egypt, they had feen cast statues, which they imitated in casting the golden calf, as they did afterwards in the brazen serpent. From that time all the nations of the east cast their gods, deos conflatiles; and God forbad his people to imitate them upon pain of death. In the building of the tabernacle, the workmen did not invent the art of founding: God only directed their tafte. It is faid, that Solomon caused the figures used in the temple, and elsewhere, to be cast near Jericho, because it was a clayey soil, in argillosa terra: which shews that they had even then the same manner of founding great masses as we have.

authors had informed us in what manner the antients cast their metals in making figures. We Plin 1, 37 find, by what Pliny writes upon that head, that they fometimes made use of stone-moulds. Vitruvius speaks of a kind of stones found about the 1. 2. c. 7. lake Volsenus, and in other parts of Italy, which would bear the force of fire without breaking, and of which moulds were made for casting several Plin. 1. 54. forts of works. The antients had the art of mingling different metals in the mould, to express dif-

It were to be wished, that the Greek or Roman

ferent passions and sentiments by the diversity of

Levet,

Vitruv.

colours. There are several manners of carving metals and precious stones: for in both the one and the other they work in relief, and in hollow, which is called engraving. The antients excelled in both ways. The baffo relievo's, which we have of theirs, are infinitely esteemed by good judges: and as to engraved stones, as the fine agates and, crystals, of which there are abundance in the king of France's cabinet, it is generally faid, that there is nothing fo exquisite as those of the antient masters.

Though they engraved upon almost all kinds of precious stones, the most finished figures, which we have of theirs, are cut upon onyxes, which

is a kind of agate not transparent, or on cornelians, which they found more fit for engraving than any other stones, because they are more firm and even, and cut more neatly; and also because there are different colours that run one above the other in the onyx, by the means of which in relievo the bottom continues of one colour, and the figures of another To engrave upon gems and crystals they used, as now, the point of a diamond.

The antients highly extolled the gem in the ring Plin. 1:7. of Polycrates, tyrant of Samos, which he threw continuous into the sea, and was brought back to him by a very extraordinary accident: in Pliny's time it was pretended to be at Rome. It was, according to some, a sardonyx; to others an emerald. That of Pyrrhus was no less esteemed; upon which might be seen Apollo with his harp and the nine muses, each with their particular symbol: And all this not the effect of art but of nature: non arte, sed sponte nature.

The art of sculpture was principally employed upon cups used at feasts: these pieces were very rich and curious, as well as of the most costly materials.

One of the greatest advantages the art of making portraits ever received, for the eternifing its works, is that of engraving upon wood and copper-plates, by the means of which a great number of prints are taken off, that multiply a defign almost to infinity, and convey the artist's thoughts into different parts, which before could only be known from the fingle piece of his own work. There is reason to wonder, that the antients, who engraved fo many excellent things upon hard stones and crystals, did not discover so fine a secret, which indeed did not appear till after printing; and was, no doubt, an effect and imitation of it. For the impression of figures and cuts did not begin to be used till the end The world is indebted of the fourteenth century. VOL. I.

for the invention of them to a goldsmith, that worked at Florence.

After having related, by way of abridgment, the greatest part of what employed the sculpture of the antients, it remains for me to give an account of some of those who practised it with most success and reputation.

Control of the SECT. II.

Sculptors most celebrated amongst the antients.

Hough sculpture had its birth in Asia and Egypt, it was from Greece, properly speaking, that it derived its lustre and perfection. Not to mention the first rude essays of this art, which always carry with them the marks of their infantile state, Greece produced, especially in the time of Pericles * and after him, a multitude of excellent artists, who laboured, in emulation of each other, to place sculpture in honour by an infinite number of works, which have been, and will be, the admiration of all ages. Attica +, fertile in quarries of marble, and still more abundant in happy genius's for the arts, was soon inriched with an infinite number of statues.

I shall mention here only such of them, as were most distinguished by their ability and reputation. The most celebrated are Phidias, Polycletus, Myron, Lysippus, Praxiteles, and Scopas.

There is another still more illustrious than all I have named, but in a different way: this is the famous Socrates. I ought not to envy sculpture the honour she had of reckoning Socrates amongst her

Multas artes ad animorum corporumq; cultum nobis eruditiffima omnium gens (Græca) invenit. Liv. 1. 39. c. 8.

[†] Exornata éo genere operum eximiè terra Attica, & copia domestici marmoris, & ingenio artificum. Liv. 1. 31. n. 26. These marbles were dug in the Pentelic mountain, which was in Attica.

pupils. He was the son of a statuary, and was one himself; before he commenced philosopher. The socr. three graces, which were carefully preserved in the citadel of Athens, were generally ascribed to him. They were not naked, as it was usual to represent them, but covered: which shews what inclination he had at that time for virtue. He said, that this art had taught him the first precepts of philosophy; and that, as sculpture gives form to its subjects by removing its superfluities, so that science introduces virtue into the heart of man, by gradually retrenching all his impersections.

PHIDIAS.

Phidias, for many reasons, deserves to be placed at the head of the sculptors. He was an Athenian, A. M. and slourished in the 83d olympiad; happy times, 3556, wherein, after the victories obtained over the Perlians, abundance, the daughter of peace, and mother of arts, produced various talents by the protection Pericles afforded them! Phidias was not one of those artists who only know how to handle the tools of their profession. He had a mind adorned with all the knowledge that could be useful to a man of his profession; history, poetry, fable, geometry, and optics. A fact, not a little curious, will shew in what manner the latter was useful to him.

Alcamenes and he were each employed to make a flatue of Minerva, in order that the finest of them might be chosen, and placed on a very high column. When the two statues were finished, they were exposed to the view of the public. The Minerva of Alcamenes, when seen near, seemed admirable, and carried all the voices. That of Phidias, on the contrary, was thought insupportable; a great open mouth, nostrils which seemed drawn in, and something rude and gross throughout the whole visage.

M 2 Phidias

Phidias and his statues were ridiculed. Set them, faid he, where they are to be placed: which was accordingly done alternately. The Minerva of Alcamenes appeared then like nothing, whilft that of Phidias had a wonderful effect from its air of grandeur and majesty, which the people could never fufficiently admire. Phidias received the approbation his rival had before, who retired with shame and confusion, very much repenting that he had not learnt the

rules of optics.

The statues, so much extolled before the times we now speak of, were more estimable for their antiquity than merit. Phidias was the first who gave the Greeks a taste for the Fine in nature, and taught them to copy it. * Hence, as foon as his works appeared, they were univerfally admired; and what is still more astonishing than that he made admirable statues, is; his making so many of them: for their number, according to authors, feems incredible; and he perhaps is the only one that ever united fo much facility with fuch perfection.

Attic. p. 62.

Pausan, in I believe he worked with great pleasure upon a block of marble, found in the Persian camp after the battle of Marathon, in which those Barbarians were entirely defeated. They had affured themfelves of victory, and had brought that stone thither, in order to erect it as a trophy. Phidias made a Nemelis of it, the goddels whole function it is to humble and punish the insolent pride of men. The natural hatred of the Greeks for the Barbarians, and the grateful pleasure of avenging their country, undoubtedly animated the sculptor's genius with new fire, and lent new force and address to his hands and chiffel.

Id. in Breot. P. 548.

At the price of the spoils taken from the same enemies, he made a statue of Minerva also for the

^{*} Quinti Hortensii admodum adolescentis ingenium, ut Phidiæ fignum, fimul aspectum & probatum eft. Cic. de clar. Orat. n. 228. Platæans.

Platæans. It was of wood gilt. The face, as well as the hands and feet, were of Pentelic marble.

His talent lay principally in representing the gods. His imagination was great and noble; so that, *according to Cicero, he did not copy their features and resemblance from any visible objects, but by the force of genius formed an idea of true beauty, to which he continually applied himself, and which became his rule and model, and directed his art and execution.

Hence Pericles, who had an higher opinion of him than of all the other architects, made him director and a kind of superintendant of the buildings of the republic. When the Parthenon, that magnificent temple of Minerva, was sinished, of which some remains not ill preserved still charm travellers, and it was to be dedicated, which consisted in setting up the statue of the goddess in it, Phidias was charged with the work, in which he excelled himself. He made a statue of gold and ivory, of twenty-six cubits (or thirty-nine feet) high. The Athenians chose to have it of ivory, which at that time was much more scarce and valuable than the finest marble.

How rich soever this prodigious statue was, the Plin, 1.36. sculptor's art infinitely surpassed the materials of it. c. 5. Phidias had carved, upon the convex part of Minerva's shield, the battle of the Athenians with the Amazons; and, upon the concave, that of the giants with the gods; upon the buskins of the goddess he added the battle of the Centaurs and Lapithæ; on the pedestal the birth of Pandora, with all that sable says of it. Cicero, Pliny, Plutarch, Pausanias, and several other great writers of anti-

e

^{*} Phidias, cum faceret Jovis formam aut Minervæ, non contemplabatur aliquem a quo fimilitudinem duceret: sed ipsius in mente insidebat species pulchritudinis eximia quædam, quam intuens, in eaq; defixus, ad illius similitudinem artem & animum dirigebat. Cic. in Qrat. n. q.

quity, all connoisseurs, and eye-witnesses of it, have spoke of this statue. Their testimony leaves no room to doubt its having been one of the finest pieces of workmanship that ever was in the world.

Plut. in Pericl. p. 169. Some affure us, fays Plutarch, that Phidias put his name upon the pedestal of his Minerva at Athens. Pausanias does not mention this circumstance, which Cicero entirely denies, who says expressly, that *Phidias, not being permitted to put his name to the statue, had cut his portrait upon the goddess's shield. Plutarch adds, that Phidias had represented himself in the form of an old man, quite bald, raising a large stone with both his hands; and had also represented Pericles sighting with an Amazon, but in such an attitude, that his hand, which was extended to throw a javelin hid part of his face.

The most excellent artists have always affected to infert their names in their works, in order to . partake of the immortality they gave others. Myron, + that famous statuary, to immortalize his name, put it in characters almost imperceptible, upon one of the thighs of the statue of Apollo. Pliny relates, that two Lacedæmonian architects, Saurus and Batrachus, without accepting any reward, built fome temples in a part of the city of Rome, which Octavia caused afterwards to be inclosed with galleries. They flattered themselves, that they should have liberty to set their names upon them, which indeed feems the least recompence due to their generous disinterestedness. But we find that, in those days, the persons, who employed the most able artists, took all possible precautions to avoid sharing the esteem and attention of posterity with simple workmen. These were abfolutely refused their demand. Their address how-

Phidias similem sui speciem inclusit in clypeo Minervæ, cum inscribere non liceret. Tuscul. 1. 1. n. 34.

[†] Signum Apollinis pulcherrimum, cujus in femore literulis minutis argenteis nomen inscriptum Myronis. Cic. Verrin. de fign.

ever supplied them with an amends. They threw in, by way of ornament, lizards and frogs upon the bases and capitals of all the columns. The name of Saurus was implied by the lizard, which the the Greeks call σαυρα, and that of Batrachus by the

frog, which they call Barpaxo.

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The prohibition I speak of was not general in Greece, of which we shall soon see a very extraordinary instance in relation to Phidias himself: it was perhaps peculiar to Athens. However it was, his Plut. in having given the two portraits a place in the shield Pericl. of Minerva was made criminal. Nor was that all; P. 169. Menon, one of his pupils, demanded to be heard, and made himself his accuser. He alledged that he had applied to his own use part of the * fortyfour talents of gold, which were to have been used in the statue-of Minerva. Pericles had foreseen what would happen, and by his advice Phidias had used the gold in his Minerva in fuch a manner, that it could easily be taken out and weighed. It was weighed accordingly, and to the accuser's shame found to amount to the forty-four talents. Phidias, who plainly faw that his innocence would not fecure him against the malignant jealousy of those who envied him, and the intrigues of Pericles's enemies, who had hatched this affair against him, withdrew privately to Elis.

He there conceived thoughts of avenging himfelf upon the injuftice and ingratitude of the Athenians, in a manner pardonable and allowable in an artist, if ever revenge could be so: which was by employing his whole industry in making a statue for the Eleans, that might eclipse his Minerva, which the Athenians looked upon as his masterpiece. This he effected. His Jupiter Olympius

^{*} In supposing the proportion of gold to silver as ten to one, forty-four talents of gold amounted to four hundred and forty talents, that is to say, to one million three hundred and twenty thousand livres, something less than sixty thousand pounds sterling.

was a prodigy of art, and so perfectly such, that, to fet a just value upon it, it was thought that it deferved to be ranked amongst the seven wonders of the world. Nor had he forgot any thing that Lucian in might conduce to its perfection. Before he had entirely finished it, he exposed it to the view and judgment of the public, hiding himself in a corner, from whence he overheard all that was faid of it. One thought the nose too thick, another the face too long; and different persons found different faults. He made the best use he could of all the criticisms that seemed to have any just foundation; convinced, fays Lucian, who relates this fact, that many eyes fee better than one. An excellent reflection in every kind of work!

This statue of gold and ivory, fixty feet high, and of a proportionate magnitude, made all Plin. 1. 34. flucceeding statuaries despair. None of them had the prefumption only to imagine that they could imitate it: Præter Jovem Olympium, quem nemo emulatur, fays Pliny. According to Quin-1. 12. c. 10. tilian, the majesty of the work equalled that of the god, and even added to the religion of all who faw it: Ejus pulcritudo adjecisse aliquid etiam receptæ religioni videtur, adeò majestas operis deum equavit. Those who beheld it, were struck with astonishment, and asked whether the god had defeeded from heaven to shew himself to Phidias, or Phidias had been carried thither to contemplate the Val. Max. god. Phidias himself, upon being asked from

1. 3. c. 7. whence he had taken his idea of his Jupiter Olympius, repeated the three fine verses of Homer, in which the poet represents the majesty of that god in the most sublime terms; thereby signifying that the genius of Homer had inspired him with it.

At the base of the statue was this inscription: PHIDIAS THE ATHENIAN, THE SON OF CHAR-MIDES, MADE ME. Jupiter feems here to glory in a manner that he is the work of Phidias, and to declare

imaginib. p. 31.

Paufan. 1.5.p.303. declare fo by this infcription; tacitly to reproach the Athenians with their vicious delicacy, in not suffering that excellent artist to annex his name or

portrait to the statue of Minerva.

Pausanias, who had seen and carefully examined this statue of Jupiter Olympus, has left us a very long and very fine description of it. The Abbé Gedoyn has inserted it in his differtation upon Phidias, which he has read in the academy of inscriptions, and was pleased to communicate to me. I have made use of it in what I have related of this

famous statuary.

The statue of Jupiter Olympius raised the glory of Phidias to its highest degree, and established him a reputation, which two thousand years have not obliterated. He finished his labours with this great master-piece. The shop where he worked was preferved long after his death, and travellers used to wist it out of curiosity. The Eleans, in honour of Paus. 1. 5. his memory, instituted an office in favour of his P. 313-descendants, the whole duty of which consisted in keeping this magnificent statue clean, and in preferving it from whatever might sully its beauty.

POLYCLETUS.

Polycletus was of Sicyone, a city of Peloponne-Plin. 1. 34. fus, and lived in the 87th olympiad. Ageladus was c. 8. A. M. his mafter, and feveral very famous sculptors his 3771. disciples, of which number was Myron, of whom we shall soon speak. He made several statues of brass, which were highly esteemed. One of them represented a beautiful young man, with a crown on his head, which was sold for an hundred talents, that is, an hundred thousand crowns. But what gave him the most reputation was the * statue of

^{*} Fecit & quem canona artifices vocant, lineamenta artis ex eo petentes velut a lege quadam, solusque hominum artem ipse fecisse artis opere judicatur. Plin.

a* Doryphorus, in which all the proportions of the human body were so happily united, that it was called the Rule; and the sculptors came from all parts, to form in themselves, by studying this statue, a just idea of what they had to do, in order to excel in their art. + Polycletus is univerfally admitted to have carried the art of sculpture to its highest perfection, as Phidias is for having been the first to place it in honour.

Whilst he was at work upon a statue, by order 1. 14. c. S. of the people, he had the complaifance to hearken to all the advice they thought fit to give him, to retouch his work, and to change and correct in it whatever displeased the Athenians. But he made another in private, in which he followed only his own genius, and the rules of art. When they were exposed together to the view of the public, the people were unanimous in condemning the first. and admiring the other. What you condemn, fays Polycletus to them, is your work; what you admire is mine, was daidyn to a four slotty sit , established to addition this and equilibrated the true cleans, and an end-

. vanish an visit Myron.

Little is known of this statuary. He was an Athenian, or at least passed for one, because the inhabitants of Eleutheria, the place of his nativity, had taken refuge at Athens, and were regarded as citizens of it. He lived in the 84th olympiad. 3560. His works rendered him very famous, especially a cow, which he made in brass, and which gave occasion for abundance of fine Greek epigrams, inferted in the fourth book of the Anthologia, (Flo-Trilega.) Latin coming by av luting and a should be

LYSIPPUS.

Plin. 1. 34. Lyfippus was a Sicyonian, and lived in the time of Alexander the Great, in the 113th olympiad. A.M.

* So the guards of the king of Persia were called.

+ Hic consummaffe hanc scientiam judicatur, & toreuticen sic erudiffe, ut Phidias aperuisse. Plin.

3676.

He followed at first the business of a locksmith; but his happy genius soon induced him to take up a profession more noble and more worthy of him. He used to say, * that the Doryphorus of Polycletus had served him instead of a master. But the painter Eupompus directed him to a much better and more certain guide. For † upon Lysippus's asking him, which of his predecessors in the art of sculpture it was best to propose to himself as a model and master; no man in particular, replied he, but nature berself. He afterwards studied her solely, and made great improvements from her lessons.

He worked with so much ease, that, of all the antients, none made so great a number of statues as himself; they are said to amount to six hundred

He made, amongst others, the statue of a man, rubbing himself after bathing, of exquisite beauty. Agrippa set it up in Rome before his baths. ‡ Tiberius, who was charmed with it, having attained the empire, could not resist his desire to possess it, though in the first years of his reign, in which he was sufficiently master of himself to moderate his passions: so that he removed the statue into his own chamber, and caused another very fine one to be put up in the same place. The people, who feared Tiberius, could not however resrain from crying out in the full theatre, that they desired the statue might be replaced: with which the emperor, how fond soever he was of the statue, was obliged to comply, in order to appease the tumult.

Lysippus had made several statues of Alexander, according to his several ages, having begun at his

^{*} Polycleti Doryphorum sibi Lysippus aiebat magistrum suisse, Cic. in Brut. n. 296.

[†] Eum interrogatum quem sequeretur præcedentium, dixisse, demonstrata hominum multitudine, naturam ipsam imitandam esse, non artisseem. Plin.

¹ Mirè gratum Tiberio principi, qui non quivit temperare sibi in eo, quanquam imperiosus sui inter initia principatus, transtulita; in cubiculum, alio ibi signo substituto. Plin.

infancy.

OF SCULPTURE.

infancy. * It is well known, that prince had forbad all statuaries but Lysippus to make his statue, as he had done all painters but Apelles to draw his picture; + rightly judging, says Cicero, that the skill of those two great masters, in perpetuating their own names, would also immortalize his: for it was not to please them he published that edict, but with

a view to his own glory.

Amongst these statues, there was one of exquifire beauty, upon which Nero fet an high value, and was particularly fond of. But, as it was only of copper, I that prince, who had no taste, and was Aruck with nothing but glare, thought fit to have it gilt. This new decoration, as costly as it was, made it lose all its value, by covering the delicacy of the art. All this gaudy supplement was obliged to be taken off, by which means the statue recovered part of its original beauty and value, notwithstanding the traces and fcars the putting on and taking off the gold had left upon it. In the bad tafte of Nero methinks I fee that of some people, who industriously substitute the tinsel of conceits and witticilms to the precious and inestimable simplicity of the antients.

Lysippus is said to have added much to the perfection of statuary, in expressing the hair better than those who preceded him, and in making the heads less, and the bodies not so large, in order to make the statues seem higher. | Upon which Ly-

Edicto vetuit nequis sibi præter Apellem pingeret, aut alius Lysippo duceret æra fortis Alexandri vultum simulantia. Hor. 1. 2. Epist. ad Aug.

† Neque enim Alexander gratiæ causa ab Apelle potissimum pingi, & a Lysippo singi volebat, sed quod illorum artem cum ipsis, tum etiam sibi, gloriæ fore putabat. Cic. ad famil. 1. 5. Epist. 12.

† Quam statuam inaurari jussit Nero princeps, delectatus admodum illa. Dein, cum pretio perisset gratia artis, detractum est aurum; pretiosiorq; talis existimatur, etiam circatricibus operis atq; conscissuris, in quibus aurum hæserat, remanentibus. Plin.

conscissuris, in quibus aurum hæserat, remanentibus. Plin. | Vulgo dicebat ab illis (veteribus) factos, quales essent homi-

nes; a se quales viderentur esse.

instancy.

fippus faid of himself, that others represented men in their statues as they were; but he, as they appeared; that is to fay, if I mistake not, in the manner that was most proper to make them appear with all their beauty. The chief point in sculpture, as well as in painting, is to follow and imitate nature: Lysippus, we see, made it his guide and rule. But art does not stop there. Without ever departing from nature, it throws in strokes and graces, which do not change, but only embellish it, and catch the eye in a more lively and agreeable manner. * Demetrius, otherwise an excellent statuary, was reproached with confining himself too scrupulously to truth, and for being more studious of likeness than beauty in his works. This Lysippus avoided.

PRAXITELES.

Praxiteles lived in the 104th olympiad. We A. M. must not confound him with another Praxiteles, 3640. who made himself famous in the time of Pompey, by excellent works in the goldsmith's art. He we speak of is of the first rank among the statuaries. He worked chiefly in marble, and with extraordinary success.

Amongst the great number of statues made by Pausan. him, it would have been hard to know which to l. 1. p. 34. prefer, unless himself had informed us: which he does in a manner that has something singular enough in it. Phryne, the celebrated courtesan, was much in his favour. She had often pressed him to make her a present of one of the best of his works, and that which he believed the most sinished; and he could not refuse it. But, when he was to judge which it was, he deferred doing so from day to day; whether he found it difficult to determine

^{*} Demetrius tanquam nimius in ea (veritate) reprehenditur; & fuit similitudinis quam pulchritudinis amantior. Quintil. 1. 1. c. 10.

himself, or rather strove to evade her warm and earnest folicitations, by protracting the affair. Perfons of Phryne's profession seldom want industry and address. She found a means to get the secret out of Praxiteles, in spite of himself. One day when he was with her, she made his own fervant, whom the had gained to her purpofe; come running to tell him: "Your workhouse is on fire, and part of your works already spoiled: Which of them " shall I save?" The master, quite out of his fenses, cried out, "I am ruined and undone, if " the flames have not spared my fatyr and my "Cupid. Be in no pain, Praxiteles, refumed " Phryne immediately, there is nothing burnt: but now I know what I wanted." Praxiteles could hold out no longer. She chose the Cupid, which she afterwards set up at Thespiæ, a city of Bœotia, where she was born, and whither people went long after to see it out of curiosity. Mummius took several statues from Thespize to fend them to Rome, he paid fome regard to this, because consecrated to a god. The Cupid of Verres, mentioned by Cicero, was also done by Praxiteles, though not the fame with this.

It is undoubtedly of the first that mention is made in Mr. de Thou's memoirs. The fact is very curious, wherefore I shall transcribe it as related there: Mr. de Thou, when young, went into Italy with Mr. de Foix, whom the court sent thither. They were then at Pavia. Amongst other rarities which Isabella of Este, the duke of Mantua's grandmother, had disposed with great care and order, in a magnificent cabinet, Mr. de Thou was shewn an admirable piece of sculpture; this was a Cupid sleeping, made of the sine marble of Spezzia, by the celebrated Michael Angelo Buonarotti, who revived the arts of painting, sculpture, and architecture, which had long been neglected before him. De Foix, upon the account given him of this ma-

Upon the coast of Genoa.

fter-piece, went to see it. All his train, and De Thou himself, who had a very exquisite taste for works of this kind, after having attentively considered it on all sides, declared unanimously, that it was infinitely above all praise that could be

given it.

When they had admired it for some time, ano. ther Cupid was shewn them, that had been wrapped up in a piece of filk. This monument of antiquity, fuch as the many epigrams written by Greece * of old in its praise represent it, was still soiled with the earth out of which it had been taken. Upon comparing the one with the other, the whole company were ashamed of having judged so much to the advantage of the first, and agreed that the antient Cupid seemed instinct with life, and the modern a mere block of marble, without expression: Some persons of the house then assured them, that Michael Angelo, who was more fincere than great artifts generally are, had earnestly requested the countess Isabella, after having made her a present of his Cupid, and feen the other, that the antient one should be shewn last; that the connoisseurs might judge, on feeing them both, how much the antients excelled the moderns in works of this kind.

But the most judicious are sometimes mistaken, Mr. de as the same Michael Angelo himself has given us Pile's life a proof. Having made the figure of a Cupid, he of M. Ancarried it to Rome; and, having broken off one of its arms, which he kept, he buried the rest in a place which he knew was to be dug. This figure being found, it was admired by the connoisseurs, and sold for an antique to the cardinal San Gregorio. Michael Angelo soon undeceived them, by producing the arm he had kept. There is something very extraordinary in having ability

There are two and twenty epigrams upon this Cupid in the fourth book of the Anthologia.

enough

enough to imitate the antients fo perfectly, as to deceive the eyes of the best judges; and at the same time to much modefty, as to confess ingenuously a great fuperiority on their side, as wee see Michael

Angelo did.

Something like this is related on a different occafion. Tofeph Scaliger, the most learned critic of his times, boafted that it was impossible for him to be deceived in regard to the stile of the antients. Six verses were sent abroad as lately discovered a they are, a lift and all and some

Here, fi querelis, ejulatu, fletibus, Medicina fieret miseriis mortalium, Auro parande lacryme contra forent: Nunc bæc ad minuenda mala non magis valent: Quam Nania Prafica ad excitandos mortuos. Res turbidæ confilium non fletum expetunt.

These verses, which are admirable, and have all the air of antiquity, deceived Scaliger to effectually, that he cited them in his commentary upon Varro, as a fragment from Trabea, not long fince discovered in an antient manuscript. Trabea was a comic poet, and lived fix hundred years after the foundation of Rome. They were, however, made by Muretus, who played Scaliger, his rival and competitor, this trick.

Athen.

We may believe that Praxiteles, abandoned as 1.13.p.591. he was to Phryne, did not fail to employ the work of his hands for her, who had made herself the mistress of his heart. One of Phryne's statues was placed afterwards in Delphos itself, between those of Archidamus, king of Sparta, and Philip king of Macedon. How infamous this! If riches were. a title to a place in that temple, she might well pretend to it: for her's were immense. She had the impudence (for by what other name can I call the fact I am going to relate?) to engage to rebuild

rebuild the city of Thebes at her own expence, provided this infcription were placed on it: ALEXAN-ANDER DESTROYED, AND PHRYNE REBUILT THERES.

The inhabitants of the ifle of Cos had demanded Plin. 1. 36, a statue of Venus from Praxiteles. He made two, c. 5. of which he gave them their choice at the fame price. The one was naked, the other covered; but the first was infinitely the most beautiful: immensa differentia fame. The people of Cos had the wifdom to give the preference to the latter; convinced that decency, politeness, and modesty, did not admit them to introduce an image into their city, that might be of infinite prejudice to their manners: Severum id ac pudicum arbitrantes. How many Christians does this chafte conduct difgrace? The Cnidians were less attentive in point of morals. They bought the rejected Venus with joy, which afterwards became the glory of their city; whither people went from remote parts to fee that statue, which was deemed the most finished work of Praxiteles. Nicomedes, king of Bithynia, fet so high a value upon it, that he offered to release all the debts the Cnidians owed him, which were very confiderable, provided they would give it him. They thought it would dishonour and even impoverish them to sell for any price whatsoever a statue, which they considered as their glory and cleven teet. It was there in the feet and an haltendin

and had three fix pillars around it, 'Scopas under-

Scopas was both an excellent architect, and an Plin. 1. 36. excellent sculptor. He was of the island of Paros, c. 5. and slourished in the 87th olympiad. Amongst all A.M. his works, his Venus held the first rank. It was 3572 even pretended, that it was superior to the so much renowned one of Praxiteles. It was carried to Vol. I.

Plin. 1. 36.

OF SCULPTURE

Rome: * but, fays Pliny, the number and excellency of the works, which abound in this city, obfeure its lustre; besides which, the employments and affairs, that engross people here, scarce afford them time to amuse themselves with these curiosisies; to consider and admire the beauties of which requires persons of leisure, and such as have no business, as well as places quiet and remote from noise.

Plin. 1. 36.—II have observed elsewhere, that the pillar, which the made for the temple of Diana at Ephesus, was reputed the finest in that building.

Ibid. c. 5. Vitr. præfat.

1.23.20 390

Rome:

He also very much contributed to the beauty and ornament of the famous Mausolæum, erected by queen Artemisia, to the memory of her husband Mausolus, in the city of Halicarnassus, which was reckoned one of the seven wonders of the world, as well for its magnitude and lostiness of architecture, as the quantity and excellence of the works of sculpture, with which it was inriched. Several illustrious competitors divided the glory of this structure with Scopas. I purposely referred to this place the description Pliny has left of us part of this superb pile, because it relates more to sculpture than architecture.

The extent of this Mausolæum was sixty-three feet from north to south. The fronts not quite so broad, and the circumference + four hundred and eleven feet. It was thirty six feet and an half high, and had thirty-six pillars around it. Scopas undertook the east side, Timotheus had the south, Leocharis the west, and Briaxis the north. These

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Rome quidem magnitudo operum cam (Venerem) obliterat, ac magni officiorum negotiorum; acervi omnes a contemplatione talium operum abducunt, quoniam otioforum & in magno loci filentis apta admiratio talis est. Pin.

t There was apparently a wall round the Maufolaum, and some world space between it and that wall; which feems necessary to make up the extent of the circumference mentioned here.

were the most famous sculptors of those times. Artemisia died before they had finished the work: but they believed it not for their honour to leave it imperfect. It is doubted to this day, fays Pliny, which of the four succeeded best: Hodieque certant manus. Pythis joined them, and added a pyramid to the top of the Mausolæum, upon which he placed a chariot of marble drawn by four horses. Anaxagoras of Clazomena faid coldly when he faw Diog. it: Here's a great deal of money turned into stone. Laert. in

I ought not to conclude this article, without Plin. 1. 34. mentioning a very fingular dispute, in which two c. 8. of the most celebrated statuaries I have spoken of were engaged, even after their deaths: these were Phidias and Polycletus. I have observed above, that the temple of Diana at Ephefus was not finished till after a long series of years. The question was, at a time Pliny does not fix, to place in it some statues of Amazons, very probably to the number of four. Several had been done by the greatest masters both dead and living. The majesty of the temple required, that none should be admitted which were not exquisitely finished. It was necessary; upon this occasion, to consult the most accomplished sculptors in being, how interested soever they might be in the dispute. Each gave himself the first place, and afterwards named those they believed to have succeeded best; and it was the sculptors who had the majority of these latter suffrages, that were declared victorious. Po- Plut. in lycletus had the first place, Phidias the second, and Themist. Ctefilas and Cylon the two others. Something of P. 120. the same nature had happened long before; but on -a different occasion After the battle of Salamis, the Grecian captains, according to a custom obferved in those times, were to set down on a paper him they believed to have diffinguished himself most in the action. Each named himself first, and Themis-

tocles fecond; which was in reality giving him the coming died before they had heithed the soald shift

hominum libantibus.

Cic. in fign. n. 125, 127,

It is plain, that, in the short enumeration I have made of the antient statuaries, I have chosen only the very flower of the most famous. There are many others, and of great reputation, which I am obliged to omit, to avoid enlarging my work too much. Cicero highly extols the statue of Sappho Verr. de in copper, done by the celebrated statuary Silanion. Nothing was more perfect than this statue: Verres had taken it from the Prytanæum of Syra-Plin. 1. 34- cufer Pliny relates, that the same Silanion had cast the statue of Apollodorus, his brother sculptor, in brafs, who was a passionate man, and violent against himself; and who often, in the heat of his difguft, broke his own works to pieces, because he could not carry them to that supreme degree of perfection, of which he had the idea in his thoughts. Silanion represented this furious humour in fo lively a manner, that it did not feem fo much to express Apollodorus, as rage itself in person: Hoc in eo expressit, nec bominem ex ære fecit, sed iracundiam.

6. 5.

Ibid. 1. 36. The same Pliny also very much extols a Laocoon, which was in the palace of Titus, and gives it the preference to all other works of painting and fculpture. Three excellent artifts, Agefander, Polydorus, and Athenodorus, Rhodians, had joined in executing it, and had made out of one stone Lacoon, his children, and the ferpents in all their different folds. The work must have been admirable, if equal to the beautiful description of this fact in Virgil, or indeed if it came near it and st

Æneid.

no Iteremains for me to draw the character of those illustrious artists who excelled so much in reprefenting the gods and men naturally. I shall do it after Quintilian and Cicero, two admirable painters of characters and portraits, but who generally cannot be copied without being spoiled

tocies

The.

The first having enumerated the different man- Quintil. ners in painting, he continues thus: There is the same difference also in sculpture. For the first statuaries of whom we have any account, Calon and Egelias, worked in a rude manner, and almost in the Tuscan taste. Calamis came next, and his works had less constraint in them. Those of Myron afterwards had still a more natural and easy air. Polycletus added regularity and gracefulness to them. The first place is generally given to him: however, as there is nothing entirely perfect, his statues are faid to want a little more force. And indeed he represented men with infinite graces, and better than they are: but he did not entirely come up to the majesty of the gods. It is even said, that the manly age confounded his skilful hands. for which reason he scarce ever expressed any thing but tender youth. But what Polycletus wanted fell to the share of Phidias and Alcamenes. However, Phidias was judged to have represented the gods better than men. Never did an artist use ivory with so much fuccess; if we only consider his Minerva of Athens, and his Jupiter Olympius, the beauty of which feemed to improve the religion of the beholders, so much did the work express the majesty of the god. Lysippus and Praxiteles were reckoned to have copied nature best. For, as to Demetrius, he is blamed for having carried that care to excess, and for having confined himself more to resemblance than beauty.

The passage of Cicero is shorter, in which he also Cic. in mentions feveral of the antients very little known. I observe, says he, that Canachus, in his statues, has fomething dry and rude. Calamis, rude as he is, has not fo much of that character as Canachus. Myron does not come near enough to the just, though, strictly speaking, whatever comes from his hands is fine. Polycletus is much above them all,

and in my opinion has attained perfection.

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I have already observed more than once, that sculpture is indebted to Greece for the supreme perfection to which it attained. The grandeur of Rome, which was to erect itself upon the ruins of that of Alexander's successors, long retained the ruftic simplicity of its dictators and confuls, who neither efteemed, nor practifed, any arts but those which were subservient to war, and the occasions of life. They did not begin to have a taste for statues, and the other works of sculpture, till after Marcellus, Scipio, Flaminius, Paulus Emilius, and Mummius, had exposed to the view of the Romans whatever Syracufe, Afia, Macedonia, Corinth, Achaia, and Boeotia, had of most excellent in the works of art. Rome faw with admiration the paintings and sculptures in brass and marble, with all that ferves for the ornament of temples and public places. The people piqued themselves upon ftudying their beauties, difcerning their excellen-cies, and knowing their value; and this kind of science became a new merit, but at the same time the occasion of an abuse fatal to the republic. We have feen that Mummius, after the taking of Corinth, in directing the persons who had undertaken the carriage of a great number of statues and paintings of the greatest masters to Rome, threatened them, if they lost or spoiled any of them upon the way, that they should make them good at their own costs and charges. Is not this gross ignorance, fays an historian, infinitely preferable to the pretended knowledge which foon fucceeded it? Strange weakness of human nature! Is innocence then inseparable from ignorance, and cannot knowledge, and a taste estimable in itself, be attained, of that character a

I have

Non, puto dubites, Vinici, quin magis pro rep. fuerit, manere adhue rudem Corinthiorum intellectum, quam in tantum ea intelligi; & quin hac prudentia illa imprudentia decori publico fuerit convenientior. Vell. Patere. 1. 1. c. 23.

without the manners fuffering thereby through an abuse, which sometimes, though unjustly, reflects reproach and disgrace upon the arts themselves.

This new tafte for extraordinary pieces was foon carried to an excess of They seemed to contend, who should adorn their houses in town and country with most magnificence. The government of conquered countries supplied them with occasions of doing this. As long as their manners remained uncorrupt, the governors were not permitted to purchase any thing from the people they were let over; because, says Cicero, when the seller is not verr, de at liberty to fell things at the price they are worth, fign. n. 10. it is not a fale on his fide, but a violence done to him: Quod putabant ereptionem effe, non emptionem, cum venditeri suo arbitratu vendere non liceret. It is well known, * that these wonders of art, performed by the greatest masters, were very often without price. Nor indeed have they any other, than what the imagination, passion, and, to use Seneca's expreffion, the + phrenfy of certain people fet upon them. The governors of provinces bought what was highly esteemed for little or nothing: and these were very moderate; for most of them made their collections by force and violence.

History gives us instances of this in the person of Verres, prætor of Sicily, who was not the only one that acted in this manner. He indeed carried his impudence in this point to an inconceivable excess, which Cicero § knew not by what term to express; passion, phrensy, folly, robbery! He could find

^{*} Qui modus est in his rebus cupiditatis, idem est æstimationis. Dissicile est enim sinem sacere pretio, nisi libidini seceris. Verr. de sign. n. 14.

[†] Corinthia paucorum furore pretiosa. De brev. vit. c. 12. § Venio nunc ad istius, quemadmodum ipse appellat, studium; tut amici ejus, morbum & insaniam; ut Siculi, latrocinium. Ego, quo nomine appellem, nescio. Ibid. n. 1.

Verr. de

fign.n.ro

OF SCULPTURE

Neither decency, sense of honour, nor sear of the laws, could restrain him. He reckoned himself in Sicily as in a conquered country. No statue, great or small, of any value or reputation, escaped his rapacious hands. In a word, Cicero affirms, that the curiofity of Verres had cost Syracuse more gods, than the victory of Marcellus had cost it men.

Sic habetote, plures effe a Syracufanis iffius adventu deos, quam victoria Marcelli homines, defideratos. Ibid. n. 131.

nt liberty to fell things at the price they are worth, is not a fall on his fide, but a violence done to him a Gyat hat court enquence of the sile of the court employment effect would be seen to be supplied that the courters of art, performed by the great headers, were very often without the enginetion, pathon, the imagination pathon, and, to use Seneca's expression, the t phrenty of, certain people fet upon them, if he governors of previnces bought what was highly eleemed for little or nothing; and these were very moderate; for most of them made their collections by force and violence.

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" Odimodes ell in his relus regularie, id m'ellactionationi.

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Thee two arts have many things common to

both of them. V by R. H. A. P. T. E. R. d. V. ment lo died imitation of a rest of the res

affects almost .larses ni gnitning O Bur, without pretenting to ellabour the precedency between these

the fieles of a gnitning to migno are first the artiff's hand, by

AINTING, like all other arts, was very Plin. 1. 35. gross and imperfect in its beginnings. The c. 3. hadow of a man marked by the outlines gave birth to it, as well as to sculpture. The first manner of painting therefore derived its origin from a shadow, and consisted only in some strokes, which multiplying by degrees formed design. Colour was afterwards added. There was no more than one at first in each draught, without any mixture; which manner of painting was called Monochromaton, that is to fay, of one colour. The art at length improving every day, the mixture of only four colours was introduced; of which we shall speak in its place.

I do not examine here the antiquity of painting. The Egyptians boast themselves the inventors of it; which is very possible; but it was not they who placed it in honour and estimation. Pliny, in his long enumeration of excellent artists in every kind, and of master-pieces of art, does not mention one Egyptian. It was therefore in Greece, whether at -Corinth, Sicyone, Athens, or in the other cities, that painting attained its perfection. It is believed Plin. ibid. to be of later date than sculpture, because Homer,

who often speaks of statues, relievo's, and carved works, never mentions any piece of painting or

portrait.

These two arts have many things common to both of them, but attain their end, which is the imitation of nature, by different means: Sculpture by moulding substances; Painting by laying colours upon a flat superficies; and it must be confessed, that the chiffel, in the hands of a man of genius, affects almost as much as the pencil. But, without pretending to establish the precedency between these two arts, or to give one the preference to the other, how wonderful is it to fee, that the artist's hand, by the strokes of a chiffel, can animate marble and brass, and, by running over a canvas with a pencil and colours, imitate by lines, lights, and shades, all the objects of nature! If * Phidias forms the image of Jove, fays Seneca, the god feems about to dart his thunder! If he represents Minerva, one would fay that the was going to instruct the beholders, and that the godders of wildom was only filent out of modefty. Charming delution, grateful impofture, which deceive without inducing error, and illude the fenfes only to enlighten the foul! g was called Monochromaton,

> Non vidit Phidias Jovern, fecit tamen velut tonantem : nec fletit ante oculos ejus Minerva, dignus tamen illa arte animus, & concepit deos, & exhibuit. Senec Controv. 1. 5. c. 34.
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> Verecunde admodum filent, ut hine responsuras paulo minus voces

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on edts chosen b. II ste To Tabe verer just, if they are not well disposed, the work will not be gone-Of the different parts of painting. Of the Just in the whole its best cheguinting and are allocke and

and engages the mind, by an elegant and prudent TAINTING is an art, which by lines and colours represents upon a smooth and even furtace all visible objects. The image it gives of them. whether of many figures together, or only of one, is called a picture, in which three things are to be confidered, the Composition, the Design, and the Coloris, or Colouring; which are the three effential parts in forming a good painter.

1. Composition, which is the first part of painting, confifts of two things, invention and dif-

estacis, good estro clegance, character, aoithog

Invention is the choice of the objects, which are to enter into the composition of the subject, the painter intends to treat on. It is either simply historical, or allegorical. Historical invention is the choice of objects, which simply and of themselves reprefent the subject. It takes in not only true or fabulous history, but includes the portraits of persons, the representation of countries, and all the productions of art and nature. Allegorical invention is the choice of objects to represent in a picture, either in whole or in part, fomething different from what they are in reality. Such, for instance, was the picture of Apelles, that represented calumny, which Lucian has described in a passage I shall repeat in the fequel. Such was the moral piece representing. Hercules between Venus and Minerva, in which those Pagan divinities are only introduced, to imply the attractions of pleasure opposed to those of virtue. Band TENTAL REPORTED TO

Disposition very much contributes to the perfection and value of a piece of painting. For, how advantageous foever the subject may be, the invention

OF PAINTING.

tion however ingenious, and the imitation of the objects chosen by the painter however just, if they are not well disposed, the work will not be generally approved. Economy and good order gives the whole its best effect, attracts the attention, and and engages the mind, by an elegant and prudent disposition of all the figures into their natural places. And this occonomy and distribution is called disposition. It is a seconomy and distribution is called disposition.

2. The Design, confidered as a part of painting, is taken for the outlines of objects, for the measures and proportions of exterior forms. It regards painters, sculptors, architects, engravers, and all artists in general, whose works require beauty and proportion.

Several things are confidered in the design: Correctness, good taste, elegance, character, diversity, expression, and perspective. My design is to treat on the principles of painting only so far as they may be necessary to the reader's understanding what. I shall relate of the painting of the antients, and to his judging of it with some discernment and propriety.

Correctness is a term by which the painters generally express the condition of a design, when exempt from faults in its measures. This correctness depends upon the justness of proportions, and the knowledge of anatomy.

Tafte is an idea either proceeding from the natural genius of the painter, or formed in him by education. Each school has its peculiar taste of design; and, since the revival of the polite arts in Europe, that of Rome has always been esteemed the best, becaused formed upon the antique. The antique is therefore the best taste of design.

Elegance of design is a manner of being that embellishes without destroying the justness of objects. This part, which is of great importance, will be treated on more at large in the sequel.

non

Character

Character is the proper and peculiar mark that distinguishes and characteriles every species of objects, which all require different strokes to express

the spirit of their character. The de to the to the spirit to

Diversity consists in giving every person in a picture their proper air and attitude. The skilful painter has the penetration to discern the character of nature, which varies in all men. Hence the countenances and gestures of the persons he paints continually vary. A great painter, for instance, has an infinity of different joys and forrows, which he knows how to diversify still more by the ages, humours, and characters of nations and persons, and a thousand other different means. The most worn-out subject becomes a new one under his pencil.

The word Expression is generally confounded in the language of painting with that of Passion. They are however different. Expression is a general term, which signifies the representation of an object according to its character in nature, and the use the painter designs to make of it in conformity to the plan of his work. And Passion, in painting, is a certain gesture of the body attended with lineaments of the face, which together denote an emotion of the foul. So that every passion is an expression, but

not every expression a passion. Jobby's vd ,afre

Perspective is the art of representing the objects in a plan, according to the difference their distance may occasion, either with respect to figure or colour. Ferspective therefore is distinguished into two sorts, the lineal and the aerial. The lineal perspective consists in the just contraction or abridgment of lines; the aerial in the just decrease or gradation of colours. This gradual decrease, in painting, is the management of the strong and faint, in lights, shades, and tints, according to the different degrees of distance or remoteness. Mr. Persault, out of a blind zeal for the moderns, pretended, that persons the strong and strong the persons of the strong and strong the different degrees of distance or remoteness.

spective was absolutely unknown to the antients; and founded his opinion upon the want of perspec-Memoirs of tive in the column of Trajan. The Abbe Salier. in a brief but elegant differtation upon this subject, of Inscript. vol. VIII. proves in many passages, that Perspective was not unknown to the antients, and that it was this industrious artifice, which taught them to impose fo happily on the fenses in their performances; by the modification of magnitudes, figures, and colours, of which they knew how to increase or diminish the boldness and lustre As to the column of Trajan, if Perspective be not exactly observed in it. it is not through ignorance of the rules of art; but because the greatest masters depart from; and even fet themselves above, all rule, for the more certain attainment of their end. Mr. de Piles owns, that the defect of gradual decrease or gradation in that pillar is to be ascribed solely to the workman's defign, who, superior to the rules of his art, to affift the fight, purposely made the objects stronger and cording to the clarafter in nature, "soldaglaq arom

The Coloris, or Colouring, is different from colour. The latter renders the objects fensible to the eye. The coloris, or colouring, is one of the effential parts of painting, by which the painter knows how to imitate the colour of all natural objects, by a judicious mixture of the simple colours upon his pallet. This is a very important part. It teaches the manner in which colours are to be used. for producing those fine effects of the Chiaro ofcuro (light and shade,) which add boldness and a kind of relief to the figures, and shew the remoter objects in their just light. mondernoo the oil in estimoo

Pliny explains it with sufficient extent. After having spoken of the very simple and gross beginnings of painting, he adds, * that, by the help of time shades, and time, according to the different degrees

Tandem fe ars ipfa diffinxit & invenit lumen atque umbras, differentia colorum alterna wice fese excitante : postea deinde adjec-tus est SPLENBOR, alius hie quam lumen; quem, quia inter hoo & umbram effet, appellaverunt Tovov. Plin. 1. 35. c. 5.

and experience, it gradually threw off its defects: that it discovered light and shade with the difference of the colours which fet off each other; and that it made use of the Chiaro oscuro, the shadowing, as the most exquisite degree and perfection of the coloris. For this chiaro-ofcuro (light and shade, or shadowing,) is not properly light, but the mean between the lights and shades in the composition of a subject. And from thence the Greeks called it Tonos, that is, the tone of painting: to fignify, that as in music, there are a thousand different tones. from the infenfible union of which the harmony refults; fo in painting, there is an almost imperceptible force and gradation of light, which still vary, according to the different objects upon which they fall. It is by this enchanting distribution of lights and shades, and, if I may be allowed to say it, by the delufion of this kind of magic, that the painters impose upon the fenses, and deceive the eyes of spectators. They employ with an art never to be fufficiently admired, all the various alloys or diminutions of colour gradually to foften and inforce the colour of objects. The progression of shade is not more exact in nature, than in their paintings.

It is this infinuating charm that strikes and attracts all mankind: the ignorant, the connoisseurs, and even painters themselves. It suffers no-body to pass by a painting that has this character with indifference, without being in a manner surprised, and without stopping to enjoy the pleasure of that surprise for some time. True painting therefore is that which in a manner calls us to it by surprising us: it is only by the force of the effect it produce, that we cannot help going to it, as if to know something it had to say to us. And when we approach it, we really find that it delights us by the sine choice and novelty of the things it presents to our view; by the history and sable it makes us call to mind; and the ingenious inventions and alle-

gories,

gories, of which we take pleasure either to discover the fense, or criticise the obscurity, never have

It does more as Aristotle observes in his Poetics. Monfters, and dead or dying men, which we should be afraid to look upon; or should see with horron; we behold with pleasure imitated in the works of the painters. The better the likeness, the fonder we are to gaze upon them. One would think. that the murder of the Innocents should leave the most offensive ideas in the imagination of those, who actually fee the furious foldiers butchering infants in the bosoms of their mothers covered with their -blood. Le Brun's picture, in which we fee that tragical event represented, affects us sensibly, and foftens the heart, whilft it leaves no painful idea in the mind. The painter afflicts us no more than we are pleased he should; and the grief he gives us, which is but superficial, vanishes with the painting: whereas, had we been struck with the real objects, we should not have been capable of giving bounds, either to the violence or duration of our fentiments.

But * what ought absolutely to reign in painting; and constitutes its supreme excellency, is the True. Nothing is good, nothing pleases, but the True: All the arts, which have imitation for their object; are folely intended to instruct and divert mankind by a faithful representation of nature. I shall insert here some reflections upon this subject, which I hope will be agreeable to the reader. I have extracted them from a little treatife of Mr. de Piles +, upon the True in painting; and still more, from a letter of Mr. du Guet annexed to it, which was witten to a lady, who had defired his opinion of that fhort tractive to the control of had it maid agreed

1. 7. c. 5. † M. de Piles Cours de Peinture. Paris edit. M. de Piles Cours de Peinture.

201192 only 15 minutes

Pictura probari non debent que non funt similes veritati. Vitri

Of the True in painting.

Though painting is only an imitation, and the object in the picture but feigned, it is however called *True*, when it perfectly represents the character of its model.

The True in painting is distinguished into three kinds. The simple, the ideal, and the compound

or perfect True.

The Simple, which is called the first True, is a simple imitation of the expressive movements (or affections) of nature, and of the objects, such as they really are and present themselves immediately to the eye, which the painter has chosen for his model: so that the carnations or naked parts of an human body appear to be real sless, and the draperies real habits, according to their diversity, and each particular object retains the true character it has in nature.

The Ideal True is the choice of various perfections, which are never to be found in a fingle model, but are taken from several, and generally from

the antique.

The third, or Compound True, which is compounded or formed of the simple and ideal True, constitutes in that union the highest excellency of the art, and the perfect imitation of the Fine Nature. Painters may be said to excel according to the degree in which they are masters of the first and second True, and the happy facility they have acquired of forming out of both a good composite or compound True.

This union reconciles two things which feem oppolites: to imitate nature, and not confine one's felf to that imitation; to add to its beauties, and yet

correct it to express it the better.

The Simple True supplies the movements (affections or passions) and the life. The Ideal chuses Vol. I. O with

with art whatever may embellish it, and render it more striking; but does not depart from the Simple, which, though poor in certain parts, is rich in its whole.

If the second True does not suppose the first, if it suppresses or prevents it from making itself more sensible than any thing the second adds to it, the art departs from nature; it shews itself instead of her; it assumes her place instead of representing her; it deceives the expectation of the spectator and not his eyes; it apprises him of the snare, and does

not know how to prepare it for him.

If, on the contrary, the first True, which has all the real of affection and life, but not always the dignity, exactness, and graces to be found elsewhere, remains without the support of the second True, which is always grand and perfect, it pleases only so far as it is agreeable and finished, and the picture loses every thing that was wanting in its model.

The use therefore of the second True consists in supplying in each subject what it had not, but what it might have had, and nature has dispersed in several others; and in thus uniting what she al-

most always divides.

This fecond True, strictly speaking, is almost as real as the first: for it invents nothing, but collects universally. It studies whatever can please, instruct, and affect. Nothing in it is the result of chance, even when it seems to be so. It determines by the design what it suffers to appear but once; and inriches itself with a thousand different beauties in order to be always regular, and to avoid falling into repetitions.

It is for this reason that the union of the Simple and Ideal True have so surprising an effect. For that union forms a perfect imitation of whatever is most animated, most affecting, and most perfect in

nature.

All then is probable, because all is true: but all is surprising, because all is curious and extraordinary. All makes impression, because all has been called in that was capable of doing so: but nothing appears forced or affected, because the natural has been chosen, in chusing the wonderful and the perfect.

It is this fine Probable, which often appears more true than truth itself: because in this union the first True strikes the spectator, avoids various desects, and exhibits itself without seeming to do so.

This third True is an end to which none ever attained. It can only be faid, that those who have come regress to it, have most excelled.

What I have faid hitherto of the effential parts of painting, will facilitate the understanding of what I shall soon add of the painters themselves, in the brief account I shall give of them. The greatest masters agree, that there never was a painter who entirely excelled in all the parts of his art. Some are happy in Invention, others in the Design: some in the Coloris, others in Expression: and some paint with abundance of grace and beauty. No one ever possessed all these excellencies together. These talents, and many others which I omit, have always been divided: the most excellent painter is he who possessed the most of them.

To know the bent of nature is the most important concern. Men come into the world with a genius determined not only to a certain art, but to certain parts of that art, in which only they are capable of any eminent success. If they quit their sphere, they fall below even mediocrity in their profession. * Art adds much to natural endowments, but does not supply them where they are wanting. Every thing

^{*} Ut vere dictum est caput esse artis, decere quod facias; ita id neque sine arte esse, neque totum arte tradi potest. Quintil. 1. 11.

10 2 x sec.

depends on genius. The aptitude a man has received from nature to do certain things well and
with ease, which others cannot do but very ill,
though they take great pains, is called genius. * A
painter often pleases without observing rules; whilst
another displeases, though he does observe them, because the latter has not the happiness to be born
with a genius. This genius is that fire which
exalts painters above themselves, imparts a kind
of soul to their figures, and is to them what is call-

ed spirit, rapture, or enthusiasm in poetry.

For the rest, though a painter does not excel in all the parts of his art, it does not follow, that most of the works of the great masters should not be considered as perfect in their kind, according to the measure of perfection of which human weakness is capable. The certain proof of their excellency is the fudden impression they make alike upon all spectators, ignorant and skilful; with this sole difference, + that the first only feel pleasure in feeing them, and the latter know why they are pleafed. In regard to works of poetry or painting, the impression they have upon us is a judgment not to be despised. We weep at a tragedy, or at the fight of a picture, before we reflect whether the object exhibited by the poet or painter be capable of moving us, or well imitated. The impression has told us that, before we think of fuch an inquiry. The same instinct, which at first sight would draw a sigh from us, on meeting a mother following her fon to the grave, has a like effect, when the stage or a painting shews us a faithful representation of a like event. The t public therefore is capable of judging aright

f Doct rationem artis intelligunt, indocti voluptatem. Quintil.

1. 9. c. 4.

^{*} In quibusdam virtutes non habent gratiam, in quibusdam vitia ipsa delectant. Quintil. 1. 21. c. 3.

f Illud ne quis admiretur quonam modo hæc vulgus imperitorum notet, cum in ciani genere tum in hoc ipso, magna quædam est vis incredibilisq; naturæ. Omnes enim tacito quodam sensu, sine ulla arte

of verses and painting; because, as Cicero observes, all men, by the sense implanted in them by nature, know, without the help of rules, whether the productions of art be well or ill executed.

The reader will not be furprised that I make a parallel here between painting and poetry. All the the world knows the faying of Simonides, A picture is a filent poem, and a poem a speaking picture. I do not examine, which of the two succeeds best in representing an object and painting an image. That question would carry me too far. It has been very well treated on by the author of the critical reflections upon poetry and painting, from whom I have borrowed many things on this point. I content myself with observing, that, as a picture which represents an action shews us only the instant of its duration, the painter cannot express many affecting circumstances, which precede or follow that instant, and still less make us sensible of the passions and discourse which very much exalt their spirit and force: whereas a poet has it in his power to do both at his leifure, and to give them their due extent.

It only remains for me, before I proceed to the history of the painters, to give a brief idea of the feveral species of painting.

SECT. III.

Different Species of painting.

BEFORE the secret of painting in oil was discovered, all the painters worked either in tresco or water-colours.

Fresco is a kind of painting upon fresh plaister with colours mixed with water. This work was done either upon walls or arched roofs. The painting in fresco, incorporating with the plaister, decayed and mouldered only with it. The walls of

arte aut ratione, quæ sint in artibus ac rationibus recta ac prava dijudicant. Cic. 1. 3. de orat. n. 195.

03

the

the temple of the Diofcuri * at Athens has been painted in fresco by Polygnotus and Diognetus, during the Peloponnesian war. Pausanias observes, that these paintings had been well preserved to his time, that is, almost fix hundred years after Polygnotus. The good painters, however, according to Pliny, seldom painted in fresco. They did not think it proper to confine their works to private houses, nor to leave their irretrievable master-pieces at the mercy of the flames. They fixed upon portable pieces, which, in case of accident, might be faved from the fire, by being carried from place to place. + All the monuments of those great painters, in a manner, kept guard in palaces, temples, and cities, in order to be ready to quit them upon the first alarm; and a great painter, to speak properly, was a common and public treasure to which all the world had a right.

Painting in water-colours is a kind performed with colours, diluted only with water, and fize, or

gum.

The invention of painting in oil was not known to the antients. It was a Flemish painter, named John Van Eyck, but better known by the name of John of Bruges, who discovered this secret, and used it in the sisteenth century. This invention, which had been so long unknown, consists, however, only in grinding the colours with oil of walnuts or linseed. It has been of great service to painting, because all the colours, mingling better together, make the coloris or colouring more soft, delicate and agreeable; and give a smoothness and mellowness to the whole work, which it could not have in the other methods. Paintings in oil are done upon walls, wood, canvas, stones, and all sorts of metals.

^{*} Castor and Pollux were so called, because the sons of Jupiter.

† Omnis corum are pribibus excubabat, pictorque res communis terrarum erat,

It is faid that the antient painters painted only upon tables of wood, whitened with chalk, from whence came the word tabula, a picture; and that even the use of canvas amongst the moderns is of no great standing.

Pliny, after having made a long enumeration of all the colours used in painting in his time, adds, "Upon the fight of fo great a variety of colours, I " cannot forbear admiring the wisdom and cecono-" my of the antients. For, with only + the four " fimple and primitive colours, the painters of anti-" quity executed their immortal works, which are " to this day our admiration: the white of Melos, " the yellow of Athens, the red of Sinope, and the " common black. These are all they used, and et yet it was with these four colours, well managed, " that an Apelles and a Melanthus, the greatest " painters that ever lived, produced those wonder-" ful pieces, of which only one was of fuch value, " that the whole wealth of a great city was scarce " fufficient to purchase it." It is probable that their works would have been still more perfect, if to these four colours two more had been added, which are the most general and the most amiable in nature; the blue, which represents the heavens; and the green, which so agreeably cloaths and adorns the whole earth.

The antients had a manner of painting, much in Plin. 1. 35. use even in Pliny's time, which they called # Caustic. c. 11.

If was a kind of painting in wax, in which the pencil had little or no part. The whole art confisted in preparing wax of different colours, and in

ACTES.

^{*} Nero princeps jufferit colosseum se pingi 120 pedum in linteo, incognitum ad hoc tempus. Plin. 1. 35. c. 7.

incognitum ad hoc tempus. Plin. 1. 35. c. 7.
† Quatuor coloribus folis immortalia illa opera fecere—Apelles,
Melanthius.—clariffimi pictores, cum tabulæ eorum fingulæ oppidorum vænirent opibus.

[†] This word is derived from xain, which signifies to burn.

| Ceris pingere, ac picturam inurere, quis primus excogitaverit, non constat. Plin.

applying them upon wood or ivory by the means of fire.

Miniature is a kind of painting done with simple and very fine colours, mixed with water and gum, without oil. It is distinguished from other paintings by its being more delicate, requiring a nearer view, not being easily performed except in little,

and only upon vellum, or tablets of ivory.

Paintings upon glass are done in the same manner as upon jasper and other sine stones: but the best manner of executing it is by painting under the glass, that the colours may be seen through it. The art of incorporating the colours with the glass was known in former days, as may be seen at La Sainte Chapelle, (our Lincoln's-Inn chapel,) and in abundance of other Churches. This secret is said to be lost.

Enamel-painting. Enamel is a kind of glass coloured. Its principal substance is tin and lead in equal quantities, calcined in the fire; to which are added separately such metallic colours as it is to have. The painting and work performed with mineral colours, by the heat of the fire, is called also Enamelling. China, delft, and pots varnished or glazed with earth, are so many different kinds of Enamel. The use of enamelling upon earth is very antient, as vessels enamelled with various figures were made in the time and dominions of Porsenna king of the Tuscans.

Mosaic work is composed of many little pieces inlaid, and diversified with colours and figures cemented together upon a bottom of * plaister of Paris. At first compartments were made of it to adorn cielings and floors. The painters afterwards undertook to cover walls with it, and to make various figures, with which they adorned their temples and many other edifices. They used glass and enamel in these

Or Stucco, a composition of lime and white marble powdered.
Works,

works, which they cut into an infinity of little pieces, of different fizes and colours: thefe, having an admirable luftre and polish, had all the effect at distance that could be defired, and endured the inclemencies of the weather, as well as marble. This work had the advantage, in this point, of every kind of painting, which time effaces and confumes; whereas it embellishes the Mosaic, which fublifts fo long, that its duration may almost be faid to have no end. There are several fragments of the antique Mosaic to be seen at Rome, and in feveral other parts of Italy. We should form an ill judgment of the pencil of the antients, if we were to found it upon these works. It is impossible to imitate, with the stones and bits of glass used in this kind of painting, all the beauties and graces the pencil of an able mafter gives a picture.

ARTICLE II.

Brief bistory of the most famous painters of Greece.

I Propose to speak only in this place of the most celebrated painters, without examining who were the first that used the pencil. Pliny, in the eighth, ninth, and tenth chapters of the thirty-fisth book of his natural history, will supply me with a great part of what I have to say. I shall content myself with observing this once for all, and shall cite him but seldom any more.

PHIDIAS and PANENUS.

Phidias, who flourished in the 84th olympiad, A. M. was a painter before he was a sculptor. He painted 3560. at Athens the famous Pericles, surnamed the Olympic, from the majesty and thunders of his eloquence. I have spoken at large of Phidias in the article of sculpture. Palenus, his brother, distinguished him-

elf

felf also amongst the painters of his time. He painted the famous battle of Marathon, in which the Athenians defeated the whole army of the Persians in a pitched battle. The principal officers on both sides were represented in this piece as large as the life, and with exact likeness.

Polygnorus.

kind of panning, watch time chaces bud

ne, tancies duration may simon be

Polgnotus, the fon and disciple of Aglaophon, was of Thasos, an island in the north of the Egean sea. He appeared before the 90th olympiad. He was the first that gave some grace to his figures: and contributed very much to the improvement of the art. Before him no great progress had been made in that part which regards expression. He at first cast some statues: but at length returned to the pencil, and distinguished himself by it in different manners.

But the painting which did him the most honour in all respects, was that which he performed at Athens in the * Hourian, in which he represented the principal events of the Trojan war. However important and valuable this work was, he refused to be paid for it, out of a generolity the more estimable as uncommon in persons who make money of their arts. The council of the Amphictyons, who represented the states of Greece, returned him their thanks by a folemn decree, in the name of the whole nation, and ordained, that in all the cities to which he should go, he should be lodged and maintained at the public expence. Mycon, another painter, who worked upon the same portico, but on a different fide, less generous, and perhaps not fo rich as Polygnotus, took money, and by that contrast augmented the glory of the latter.

APOL.

A. M. 3582.

This was a portico, so called from the variety of the paintings and ornaments with which it was embellished.

Finy layer, that having found the door of prints

This painter was of Athens, and lived in the 93d A.M. olympiad. It was he that at last discovered the 3596. fecret of representing to the life, and in their greatest beauty, the various objects of nature, not only by the correctness of design, but principally by the correctness of defign, but principally by the perfection of the coloris, and the distribution of shades, lights, and Chiaro-ofcuro; in which he carried painting to a degree of force and delicacy it had never been able to attain before. Pliny observes, that before him there was no painting which in a manner called . upon and seized the spectator: Neque ante eum tabula ullius oftenditur, que teneat oculos. The effect, every excellent painting ought to produce, is to fix the eyes of the spectator, and to attract and keep them in admiration. Pliny the younger, after hav- Plin. Ep. ing described in a very lively manner a Corinthian 6. 1. 3. antique, which he had bought, and which reprefented an old man standing, concludes that admirable description in these words: "In fine, every "thing in it is of a force to engage the eyes of " artists, and to delight those of the unskilful." Talia denique omnia, ut posst artificum oculos tenere, delectare imperitorum.

ZEUXIS.

Zeuxis was a native of Heraclea*, and learnt the first elements of painting about the 85th olym-A.M. piad.

nomy

^{*} It is not known which Heraclea authors mean, for there were feweral cities of that name. Some seem to suppose it Heraclea in Macedonia, or that in Italy near Crotona,

Pliny fays *, that having found the door of painting opened by the pains and industry of his master Apollodorus, he entered without difficulty, and even raised the pencil, which already began to asfume a lofty air, to a very distinguished height of glory. The gate of art means here the excellency of colouring, and the practice of the Chiaro-oscuro, light and shade, which was the last perfection painting wanted. But, as those who invent do not always bring their inventions to perfection, Zeuxis, improving upon his mafter's discoveries, carried those two excellent parts still farther than him. Hence it was, that Apollodorus, exasperated against his disciple, for this species of robbery so honourable to him, could not forbear reproaching him with it very sharply by a fatire in verse, in which he treated him as a thief, who, not content with having robbed him of his art, prefumed to adorn himfelf with it in all places as his lawful right.

All these complaints had no effect upon the imitator, and only served to induce him to make new efforts to excel himself, after having excelled his master. He succeeded entirely in his endeavours, by the admirable works he performed, which at the same time acquired him great reputation and great riches. His wealth is not the happiest part of his character. He made a puerile oftentation of it. He was fond of appearing and giving himself great airs, especially on the most public occasions, as in the Olympic games, where he shewed himself to all Greece dressed in a robe of purple, with his name embroidered upon it in let-

zers of gold.

When he became very rich, he began to give away his works liberally, without taking any thing for them. He gave one reason for this conduct,

^{*} Ab hoc (Apollodoro) fores apertas Zeuxis Heracleotes intravit
—audentemq; jam aliquid penicillum ad magnam gloriam perdux't,

which

which does no great honour to his modesty. * If, says he, I gave my works away for nothing, it was because they were above all price. I should have been

better pleased, if he had let others say so.

An infcription which he affixed to one of his pieces does not argue more modesty. It was an ATHLETA, or Wrestler, which he could not forbear admiring, and extolling as an inimitable master-piece. He wrote at the bottom of it a Greek verse, of which the sense is:

+ A l'aspect du Lutteur, dans lequel je m'admire, En van tous mes Rivaux voudront se tourmenter: Ils pourront peutetre en medire Sans pouvoir jamais l'imiter.

My WRESTLER, when my rivals see, They hate its wond'rous charms and me; A thousand things perhaps they blame, But ne'er could imitate the same:

The Greek verse is in Plutarch, but applied to Plut. de the works of Apollodorus. It is:

Athen.

p. 346.

Μωμήσεταί τις μάλλον, η μιμήσεται.

This is more easy to criticise than imitate.

Zeuxis had several rivals, of whom the most illustrious were Timanthes and Parrhasius. The latter was competitor with him in a public dispute, for the prizes of painting. Zeuxis, in his piece, had represented grapes in so lively a manner, that, as soon as it was exposed, the birds came to peck

* Postea donare opera sua instituit, quod ea nullo satis digno pre-

tio permutari posse diceret. Plin.

[†] These verses are the author's of L'Histoire de la Peinture ancienne, extracted from the 35th book of Pliny's natural history, which he has translated, or rather paraphrased, with the Latin text. This book was printed at Lon in 1725. There are excellent restellions in it, of which I have made great use.

at them. Upon which, in a transport of joy, and highly elated at the declaration of such faithful and undeniable judges in his favour, he called upon Parrhasius to produce immediately what he had to oppose to his picture. Parrhasius obeyed, and shewed a painting seemingly covered with a fine piece of stuff in form of a curtain. Remove your curtain, added Zeuxis, and let us see this masterplece. That curtain was the picture itself, and Zeuxis confessed himself conquered. For, says he, I only deceived the birds, but Parrhasius has deceived me, who am myself a painter.

The same Zeuxis, some time after, painted a young man carrying a basket of grapes: and seeing that the birds came also to peck at them, he owned, with the same frankness, that if the grapes were, well painted, the figure must be done very ill, be-

cause the birds were not afraid of it.

Quintilian informs us, that the antient painters used to give their gods and heroes the same features and characters as Zeuxis gave them, from whence

he was called the Legislator.

Festus relates, that the last painting of this master was the picture of an old woman, which work made him laugh so excessively, that he died of it. It is surprising that no author should mention this fact but Verrius Flaccus, cited by Festus. Though it is hard to believe it, says Mr. de Piles, the thing is not without example.

PARRHASIUS.

Parrhasius was a native of Ephesus, the son and disciple of Evenor, and as we have seen, the rival of Zeuxis. They were both esteemed the most excellent painters of their time, which the most

glorious

^{*} Hæc vero ita circumscripsit omnia, ut cum legum latorem vocent, quia deorum & heroum effigies, quales ab eo sunt traditæ, cæteri, tanquam ita necesse sit, sequuntur. Quintil. 1. 12. c. 10.

glorious age of painting; and Quintilian fays, * they carried it to an high degree of perfection, Parrhafius

for design, and Zeuxis for the colouring.

Pliny gives us the character and praise of Parrhafius at large. If we may believe him, the exact obfervation of symmetry was owing to that master; and also the expressive, delicate and passionate airs of the head; the elegant disposition of the hair; the beauty and dignity of features and person; and by the confent of the greatest artists, that finishing and boldness of the figures, in which he furpaffed all that went before, and equally all that fucceeded him. Pliny confiders this as the most difficult and most important part of painting. For, says he, though it be always a great addition to paint the middle of bodies well, it is however what few have fucceeded in. + But to trace the contours, give them their due decrease, and by the means of those infenfible weakenings, to make the figure feem as going to shew what it conceals; in these certainly the perfection of the art confifts.

Parrhasius had been formed for painting by Socrates, to whom such a disciple did no little

honour.

Xenophon has preserved a conversation, short indeed, but rich in sense, wherein that philosopher, who had been a sculptor in his youth, gives Parrhasius such lessons as shew, that he had a perfect

knowledge of all the rules of painting.

It is agreed, that Parrhasius excelled in what regards the characters and passions of the soul, which appeared in one of his pictures, that made abundance of noise, and acquired him great reputation. It was a faithful representation of the PEOPLE OR GENIUS OF ATHENS, which shone with a thousand

+ Ambire enim debet extremitas ipfa, & fic definere, ut promittat

alia post se, ostendatq; etiam quæ occultat.

^{*} Zeuxis atque Parrhasius—plurimum arti addiderunt. Quorum prior luminum umbrarumque invenisse rationem, secundus examinasse subtitius lineas traditur. *Ibid*.

elegant and surprising beauties, had argued an inexhaustible fund of imagination in the painter.

*For intending to forget nothing in the character
of that state, he represented it, on the one side capricious, irascible, unjust and inconstant; on the
other, humane, merciful and compassionate; and
with all this, proud, haughty, vainglorious, sierce;
and sometimes even base, timorous, and cowardly.
This picture was certainly a lively sketch of nature.
But in what manner could the pencil describe and
group so many different images? There lay the
Wonderful of the art. It was undoubtedly an al-

legorical painting.

Different authors have also drawn our painter to the life. He was an + artist of a vast genius and infinite fertility of invention, but one to whom none ever came near in point of prefumption, or rather in that kind of arrogance, which a glory justly acquired, but ill sustained, inspires sometimes in the best artificers. He dressed himself in purple, wore a crown of gold; had a very rich cane, gold clasps in his shoes, and magnificent buskins; in short, every thing about him was in the same lofty stile. He bestowed upon himself abundantly the finest epithets, and most exalted names, which he was not ashamed to inscribe at the bottom of his pictures; the delicate, the polite; the elegant Parrhasius. the man who carried the art to its perfection, originally descended from Apollo, and born to paint the gods themselves. He added, that, in regard to his Hercules, be bad represented bim exactly, feature for feature, such as be bad often ap peared to bim in his dreams. With all this shew and

+ Fœcundus artifex, fed quo nemo infolentius & arrogantius fit ufus glorià artis. Plin.

^{*} Pinxit & DÆMONA ATHENIENSIUM, argumento quoq; ingenioso volebat namq; varium iracundium, injustum, inconstantem; eundem vero exorabilem, clementem, misericordem, excelsum, gloriosum, humilem, ferocem, sugacemque & omnia pariter ostendere. Plin.

delicate in this point than Mr. Boileau, who called himself.

Ami de la vertu, plutot que vertueux.

The friend of virtue, rather than virtuous.

The event of his dispute with Timanthes, in the city of Samos, must have humbled him extremely, and not a little mortised his self-love. He that succeeded best in a subject was to have a prize. This subject was an Ajax enraged against the Greeks, for having adjudged the arms of Achilles to Ulysses. Upon this occasion, by the majority of the best judges, Timanthes was declared victor. Parrhasius covered his shame, and comforted himself for his defeat, with a smart saying, which seems to savour a little of rodomontade. Alas poor hero! said he, his sate affects me more than my own. He is a second time overcome by one of less merit than himself.

TAMPHILUS.

as well as prete with a kind of en-Pamphilus was a native of Amphipolis, upon the borders of Macedonia and Thrace. He was the first that united erudition with painting. He confined himself to mathematics, and more especially to arithmetic and geometry; maintaining strongly, that without their aid it was impossible to carry painting to its perfection. It is eafy to believe, that fuch a mafter would not make his art cheap. He took no disciple under ten talents (ten thousand crowns) for fo many years, and it was at that price Melanthus and Apelles became his scholars. He -obtained, at first at Sicyone, and afterwards throughout all Greece, the establishment of a kind of academy, in which the children of free condition, that were inclined to the polite arts, were carefully edu-Vol. I. cated

cated and instructed. And lest painting should come to degenerate, and grow into contempt, he obtained farther from the states of Greece a severe

edict to prohibit the use of it to slaves.

The excessive price paid by disciples to their masters, and the institution of academies for free persons, with the exclusion of slaves, shew how highly this art was effeemed, with what emulation they applied to it, and with what fuccess and expedition it must have attained its perfection.

Zeuxis, Parrhafius, Melanthus, and Pamphilus, were cotemporaries, and lived about the 95th Greeks, for having adjudged the arms of baiqmylo

3694.

of the best sudes a HITWAM IT declared

to Ulvilles - Upon this accasion, by the me

Parricafius covered his flager, and convoc Timanthes, according to some, was of Sicyone; and, according to others, of Cythnus, one of the Cyclades. His particular character was * invention. This part fo rare and difficult, is acquired neither by industry nor the advice and precepts of masters: it is the effect of an happy genius, a lively imagination, and that noble fire which animates painters as well as poets with a kind of enthusiasm. Pamphilus was a native of Ams

Quintil. 1. 2. c. 13.

Plin. 1. 35. The Iphigenia of Timanthes, celebrated by fo many writers, was looked upon as a mafter-piece of val. Max. the art in its kind, and occasioned its being faid, 1. 8. c. 11. that his works made those who faw + them conceive more than they expressed, and that though art in them role to its highest degree of perfection, genius still transcended it. The subject was fine, grand, tender, and entirely proper for painting; but the execution gave it all its value. This piece reprefented Iphiginia standing before the altar, as a young

^{*} Timanthi plurimum adfuit ingenî. Plin. † In omnibus ejus operibus intelligitur plus semper, quam pingitur; & cum ars sunma sit, ingenium tamen ultra artem est. Plin. 1. 35. c. 10.

and innocent princefs, upon the point of being facrificed for the preservation of her country. She was furrounded by feveral persons, all of them strongly interested in this sacrifice, though in different degrees. The painter * had represented the priest Chalchas in great affliction, Ulysses much more fad, and Menelaus the victim's uncle, with all the grief it was possible for a countenance to express: Agamemnon, the princes's father, still re-All the lineaments of forrow were however exhausted. Nature was called in to the support of art. It is not natural for a father to fee his daughter's throat cut: it sufficed for him to obey the gods who required it, and he was at liberty to abandon himself to all the excess of forrow. The painter not being able to express that of the father, chose to throw a veil over his face, leaving the spectator to judge of what passed in his heart: Velavit ejus caput, & suo cuique animo dedit astimandum.

This idea is finely conceived, and does Timanthes great honour. It is not known, however, whether he was the real auther of it, and it is probable that the Iphigenia of Euripides supplied him with it. The passage says: When Agamemnon saw bis daughter led into the grove to be sacrificed, he groaned, and turning away his head wept, and covered his face with his robe.

One of our own illustrious painters, Le Poussin, has happily imitated the same circumstance, in his picture of the death of Germanicus. After having treated the different kinds of affliction of the other persons, as passions capable of being expressed, he places on the side of Germanicus's bed, a woman

id

^{*} Cum in Iphigeniæ immolatione pinxisset triestem Colchantem, pristiorem Ulyssem addidisset Menelao, quem summam poterat ars esticere mærorem; consumptis affectibus, non reperiens quo digne modo patris vultum posset exprimere, velavit ejus caput, & suo cuiq; animo dedit æstimandum. Quintil. 1. 2. c. 13.

remarkable for her mien and habit, who hides her face with her hands, whilst her whole attitude excessive grief, and clearly intimates, that she is the wife of the prince whose death they are lamenting.

I cannot help adding in this place a very curious fact in relation to aliegorical painting. A picture, in which a fiction and an emblem are used to ex-

press a real action, is so called.

The prince of Conde had the history of his father, known in Europe by the name of the Great Conde, painted in his gallery at Chantilly. There was a great inconvenience to get over in the execution of this project. The hero, during his youth, had been engaged in interest with the enemies of the state, and had done great part of his exploits, whilst he did not carry arms for his country. It feemed necessary therefore not to display this part of his warlike actions in the gallery of Chantilly. But, on the other fide, some of his actions, as the relief of Cambray, and the retreat before Arras, were fo glorious, that it must have been a great · mortification to a fon fo passionate for his father's renown, to have suppressed them in the monument he erected to the memory of that hero. The prince himself discovered an happy evalion; for he was not only the prince, but the man of his time; to whom nature had given the most lively conceptions, and the most shining imaginations. He therefore caused the muse of history to be defigned, an allegoric but well known person, holding a book, upon the back of which was written, Life of the prince of Conde. That mule tore leaves out of the book which the threw upon the ground, and on those leaves were inscribed, Relief of Cambray, relief of Valenciennes, retreat before Arras: in short, the title of all the great actions of the prince of Conde, during his stay in the Netherlands; all every flining exploits, with no other exception than the fervice in which they were done. The piece unhappily was not executed according to fo elegant

and simple an idea. The prince, who had conceived so noble a plan, had, upon this occasion, an excess of complaisance, and paying too great a deference to art, permitted the painter to alter the elegance and simplicity of his thought by sigures, which render the painting more uniform, but make it convey nothing more than he had already imaged in so sublime a manner. I have extracted this actount from the critical resections upon poetry and painting.

APELLES.

Apelles, whom fame has placed above all other Plin. 1. 3 painters, appeared at length in the 112th olympiad. c. 10. He was the fon of Pithius, of the island of * Cos, 3672. and the disciple of Pamphilus. He is sometimes called an Ephesian, because he settled at Ephesus, where, without doubt, a man of his merit, soon obtained the freedom of the city.

He had the glory of contributing more in his own person than all the other painters together, to the persection of the art, not only by his excellent works, but by his writings, having composed three volumes upon the principal secrets of painting, which subsisted in the time of Pliny, but unfor-

tunately are not come down to us.

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His chief excellency lay in the GRACES, that is to fay, fomething free, noble, and at the same time beautiful, which moves the heart, whilst it informs the mind. When he praised and admired the works of others; which he did very willingly; after having owned, that they excelled in all the other parts, he added, that they wanted grace; but that as to himself, that quality had fallen to his share; which praise no body could dispute with him. A pardonable ingenuity in men of real merit, when not proceeding from pride and arrogance.

If in the Egean Sea.

The

The manner in which he came acquainted and contracted a friendship with Protogenes, a celebrated painter of his time, is curious enough, and worth relating. Protogenes lived at Rhodes, known only to Apelles by reputation and the fame of his works. The latter, defiring to be affured of their beauty by his own eyes, made a voyage expressly to Rhodes. When he came to Protogenes's house, he found no body at home, but an old woman who took care of the place where he worked, and a canvas on the eafel, on which there was nothing paint-Upon the old woman's asking his name, I an going to fet it down, fays he: and taking a pencil with colour, he defigned fomething in a most exquisite taste. Protogenes, on his return, being informed of what had passed by the servant, and confidering with admiration what he faw defigned, was not long before he guessed the author. This is Apelles; cried he, there is no man in the world capable of so fine and delicate a design besides bimself. Taking another colour, he drew a contour upon the fame lines still more correct and admirable, and bade his house-keeper, if the stranger returned, shew him what he had done, and tell him that it was the work of the man he came to enquire for. Apelles came again foon after: but being ashamed to fee himself excelled by his rival, he took a third colour, and amongst the strokes already done, introduced others of fo fublime and wonderful a nanature, as entirely exhausted all that was most refined and exquisite in the art. When Protogenes perceived these last strokes; I am overcome, said he, and fly to embrace my conqueror. Accordingly he ran to the port, where finding Apelles, they contracted a strict friendship, which continued ever after: a circumstance something extraordinary between perfons of the greatest merit in the same way. They agreed between them, in regard to the painting in which they had tried their skill with each other, to leave leave it to posterity as it was, without touching it any more, rightly foreseeing what really came to pass, that it would one day prove the admiration of the whole world, and particularly of the connoisseurs and mafters of the art. But this precious monument of the two greatest painters that ever were, was reduced to ashes, when the house of Augustus, in the Palatium, was first burnt; where it was exposed to the curiosity of spectators, always furprised, in the midst of a multitude of other most exquifite and finished paintings, to find in this only a kind of void space, by so much the more admirable, as'it had only the outlines of three defigns in it of the most perfect beauty, scarce visible through their smallness, and for that reason still the more valuable and the more attractive of the most judicious eyes.

It is almost in this sense the passage of Pliny is to be understood, where he says, arrepto penicillo lineam ex colore duxit summæ tenuitatis per tabulam; by lineam he does not mean a simple geometrical line, but a stroke of the pencil in an exquisite taste. The other notion is contrary to common sense, says Mr. de Piles, and shocks every body that has the least idea of painting.

Though Apelles was very exact in hs works, he knew how far it was necessary to take pains without tiring his genius, and did not carry his exactitude to the utmost scruple. * He said one day of Protogenes, that he confessed that rival might equal, or even excel him in every thing else, but did not know when to take off the pencil, (that is to say, to have done;) and that he often spoiled the sine things he did, by endeavouring to give them an higher

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Idem & aliam gloriam usurpivit cum Protogenis opus immensi laboris ac curæ supra modum anxiæ, muraetur. Dixit enim omnia sibi cum illo paria, aut illi meliora; sed uno se præst re, quod manum ille de tabula non sciret tollere; memorabili præcepto, nocere sæpe nimium diligentiam. Plin.

degree of perfection. A reflection worth nothing, fays Pliny, and which shews that a too scrupulous

exactitude often becomes prejudicial.

Apelles did not say this because he approved neggligence in those who applied themselves to painting. He was of a quite different opinion, both with regard to himself and others. He passed no day of his life, whatever other affairs he might have to transact, without exercising himself either in craions, with the pen, or the brush, as well to preserve the freedom and facility of his hand, as to improve his persection in all the refinements of an art, that has no bounds.

One of his disciples shewing him a draught for his own opinion of it, and telling him, that he had done it very fast, and in a certain space of time: I see that very plain, says he, without your telling it me, and am surprised that in so short a time

you did no more of this kind.

Another painter shewing him the picture of and Helen, which he had drawn with care, and adorned with abundance of jewels, he told him: Not being able to make her beautiful, friend of mine, you were

resolved at least to make ben rich.

If he spoke his own opinion with simplicity, he took that of others in the same manner. His custom was, when he had finished a work, to expose it to the eyes of such as passed by, and to hear what was said of it behind a curtain, with design to correct the saults they observed in it. A shoemaker having perceived something wanting in a sandal, said so freely; and the criticism was just. The next day passing the same way he saw the sault corrected. Proud of the good success of his remark, he thought sit to censure also a leg, to which there was nothing to object: the painter then came from behind the screen, and bade the shoe-maker keep to his trade and his sandals: Which gave birth.

birth to the proverb, Ne futor ultra crepidam'; that is,

Let not the cobler go beyond his last.

Apelles took pleasure in doing justice to the merit of great masters, and was not ashamed to prefer them to himself in some qualities. Thus he confessed ingenuously that Amphion excelled him in disposition, and Asclepiodorus in the regularity of design. We have seen his judgment in favour of Protogenes. Nor did he confine himself to mere words.

That excellent painter was in no great esteem with his own country. Whilst Apelles was with him at Rhodes, he asked him what he would take for his works when finished, and the other having set a very moderate price on them: and for me, replied Apelles, I offer you * fifty talents for each of them, and will take them all that price; adding, that he should easily get them off, and would sell them all as his own. This offer, which he made in earnest, opened the eyes of the Rhodians to the merit of their painter; who, on his side, made the best of it, and would not sell any more of his pictures but at a very considerable price.

His supreme excellency in painting was not the only merit of Apelles. Polite learning, knowledge of the world, and his affable, infinuating, elegant behaviour, made him highly agreeable to Alexander the Great, who did not disdain to go often to the painter's house, as well to enjoy the charms of his conversation, as to see him work, and to be the first witness of the wonders performed by his pencil. This affection for a painter, who was polite, agreeable, and full of wit, is not a matter of wonder. A young monarch easily grows fond of

^{*} Fifty thousand crowns. This sum seems exorbitant. It is common enough to meet with errors in cyphers.

a genius of this kind, who, with the goodness of his heart, unites the beauty of his mind, and the delicacy of his pencil. This fort of familiarity between heroes of different characters, is not uncommon, and does honour to the greatest princes.

Alexander had so high an idea of Apelles, that he published an edict to declare, that it was his will that no other persons should paint him; and by the same edict granted permission to none but Pyrgoteles to cut the dies for his medals, and Lysippus

to represent him in cast metals.

Plut. de amic. & adulat. p. 58.

It happened that one of the principal of Alexander's courtiers being one day with Apelles, whilft he was painting, he vented abundance of injudicious questions and reflections upon painting, as is common with those who talk of what they are igno-Apelles, who had no reason to apprehend any thing from explaining himself freely to the greatest lords, said to him, "Do you see those boys " that are grinding my colours? Whilft you were " filent they admired you, dazzled with the fplendor of the purple and gold with which your habits glitter. But ever fince you began to talk of what you don't understand, they have done no-"thing but laugh." Plutarch relates this. According to Pliny *, Apelles ventured to reprove Alexander himself in this manner, though in softer terms, advising him only to express himself with more referve before his workmen: fuch an afcendant had the witty painter acquired over a prince, who was at that time the terror and admiration of the world, and naturally very warm. Alexander gave him still more extraordinary proofs of his affection and regard.

Plin. l. 35.

In officina imperite multa diceret: filentium comiter fuadebat, riderium eum dicens a pueris qui colores tererent. Tantum auctoritatis & juris erat ei in regem, alioquin iracundum.

The simple and open character of Apelles was not equally agreeable to all the generals of that young monarch. Ptolemy, one of them, to whom Egypt was afterwards allotted, was not of the number of those that affected our painter most: for what reason history does not say. However it was, Apelles having embarked, fometime after the death of Alexander, for a city of Greece, was unfortunately thrown by a tempest upon the coast of Alexandria, where the new king made him no reception. Besides this mortification, which he expected, there were some persons, that envied him, malicious enough to endeavour to embroil him much more. With this view, they engaged one of the officers of the court to invite him to fup with the king, as from himself; not doubting but such a liberty, which hewould feem to take of himfelf, would draw upon him the indignation of a prince, who did not love, and knew nothing of this little knavish trick. Accordingly, Apelles went to supper out of deference, and the king, highly offended at his prefumption, asked him fiercely, which of his officers had invited him to his table; and shewing him his usual invitors, he added, that he would know which of them had occasioned him to take fuch a liberty. The painter, without any emotion, extricated himself from this difficulty like a man of wit, and a confummate defigner. He immediately took a piece of charcoal out of a chafingdish, in the room, and with three or four strokes upon the wall, sketched the person that had invited him, to the great aftonishment of Ptolemy, who from the first lines knew the face of the impostor. This adventure reconciled him with the king of Egypt, who afterwards loaded him with wealth and honours.

But this did not reconcile him with envy, which Lucian de only became the more violent against him. He Calumn.

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Was 585.

was accused, some time after, before that prince, of having entered with Theodotus * into the conspiracy formed against him in the city of Tyre. The accuser was another painter of reputation, named Antiphilus. There was not the least probabi-lity in the charge. Apelles had not been at Tyre; had never feen Theodotus; and was neither of a character nor profession to be concerned in such affairs: the accuser, who was also a painter, though very inferior to Apelles to merit and reputation, might. without injury, be suspected of jealousy inpoint of art. But the prince, without hearing or examining any thing, as is too common, taking it for granted that Apelles was criminal, reproached him warmly with his ingratitude, and badness of heart: and he would have been carried to execution, but for the voluntary confession of one of the accomplices; who, touched with compassion upon seeing an innocent man upon the point of being put to death, confessed his own guilt, and declared that Apelles had no share in the conspiracy. The king, ashamed of having given ear to calumny sohastily, reinstated him in his friendship, gave him Anhundred an hundred talents, to make him amends for the wrong he had done him, with Antiphilits to be his

thousand crowns. flave.

> Apelles, on his return to Ephefus, revenged himfelf upon all his enemies by an excellent picture of calumny, disposed in this manner. Upon the right of the piece fate a man of confiderable authority with great ears, not unlike those of Midas, holding out his hand to calumny, to invite her to approach him. On each fide of him flood a woman, one of whom represented Ignorance, and the other

ישולטתיים Suspicion.

> Calumny feems to advance in the form of a woman of exquisite beauty. There is however to be dis-

Lucian is taxed with a very gross anachronism in regard to this fad. cerned

cerned in her aspect and mein an air of violence and fierceness, like one actuated by anger and fury. In one hand, she holds a torch to kindle the fire of discord and division; and with the other she drags a young man by the hair, holding up his hands to heaven, and imploring the affiftance of the gods. Before her goes a man with a pale face, a withered lean body, and piercing eyes, who feems to lead the band: this was * Envy, Calumny is attended by two other women, who excite, animate, and bufy themselves about her, to exalt her charms and adjust her attire. By their wary and composed air these are easily conjectured to be FRAUD and TREACHERY. At diffance behind all the rest follows REPENTANCE, cloathed in a black torn habit, who looking back with abundance of confusion and tears, fees afar off TRUTH advancing furrounded with light. Such was the useful and ingenious revenge of this great man. I do not believe it would have been fafe for him, during his ftay in Egypt, to have drawn, or at least exposed, fuch a painting. Those great ears, that hand extended to invite the approach of Calumny, and the like strokes, do no honour to the principal character, and express a prince suspicious, credulous, open to fraud, who feems to invite accusers.

Pliny makes a long enumeration of the paintings of Apelles. That of Antigonus † is of the most famous. This prince had but one eye, wherefore he drew him turning sideways, to hide that deformity. He is said to have been the first that discovered the profile.

He drew a great many pictures of Alexander, one of which was looked upon as the most finished of his works. He was represented in it with thunder in his hand. This picture was done for

^{*} Envy, in the Greek, is masculine : \$\phi \no.

[†] Habet in pictura speciem tota facies. Apelles tamen imaginem Antigoni latere tantum altero ostendit; ut amissa occuli desormitas sateret. Quintil. l. 2. c. 13.

the temple of Diana at Ephefus. The hero's hand with the thunder in it, fays Pliny, who had feen it, feem actually projected from the piece. And that prince himself said, that he reckoned two Alexanders, the one of Philip, who was invincible;

the other of Apelles, that was inimitable.

Pliny mentions one of his paintings, which must have been of fingular beauty. He made it for a public difpute between the painters: the subject given them to work upon was a mare. Perceiving that intrigue was upon the point of adjudging the prize to one of his rivals, * he appealed from the judgment of men to that of mute animals, more just than men. He caused the pictures of the other painters to be fet before horses brought thither for that purpose; they continued without motion to all the other pieces, and did not begin to neigh till that of Apelles appeared.

His Venus, called Anadyoméne, that is to fay, rifing from the fea, was his mafter-piece. Pliny+ fays, that this piece was celebrated by the verses of the greatest poets, and that if the painting was excelled by the poetry, it was also made illustrious by it. Apelles had made another at Cos, his native country, which in his own opinion, and that of all judges, would have excelled the first; but invidious death put a stop to the work when half executed. No body afterwards would prefume to

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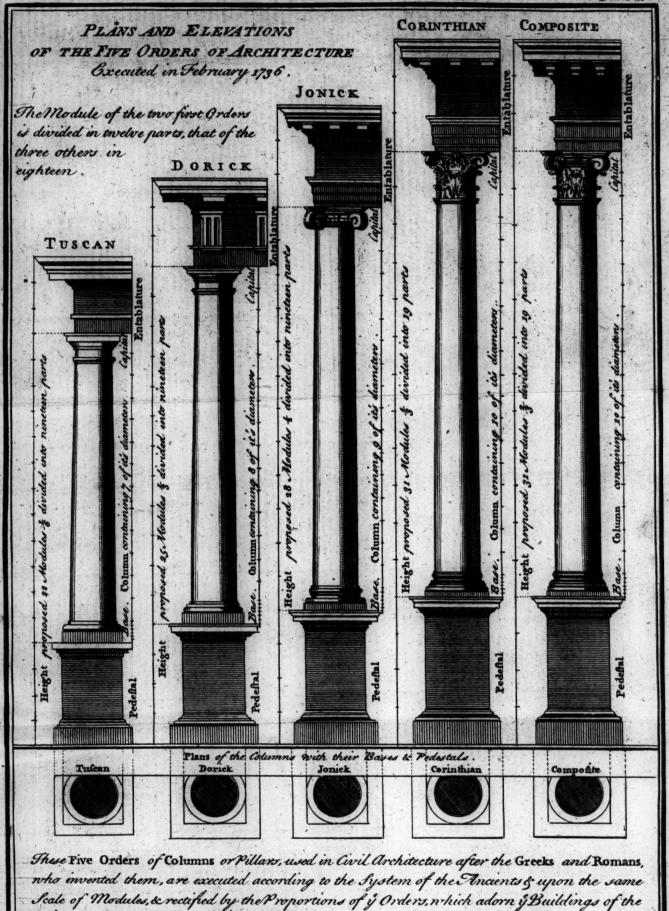
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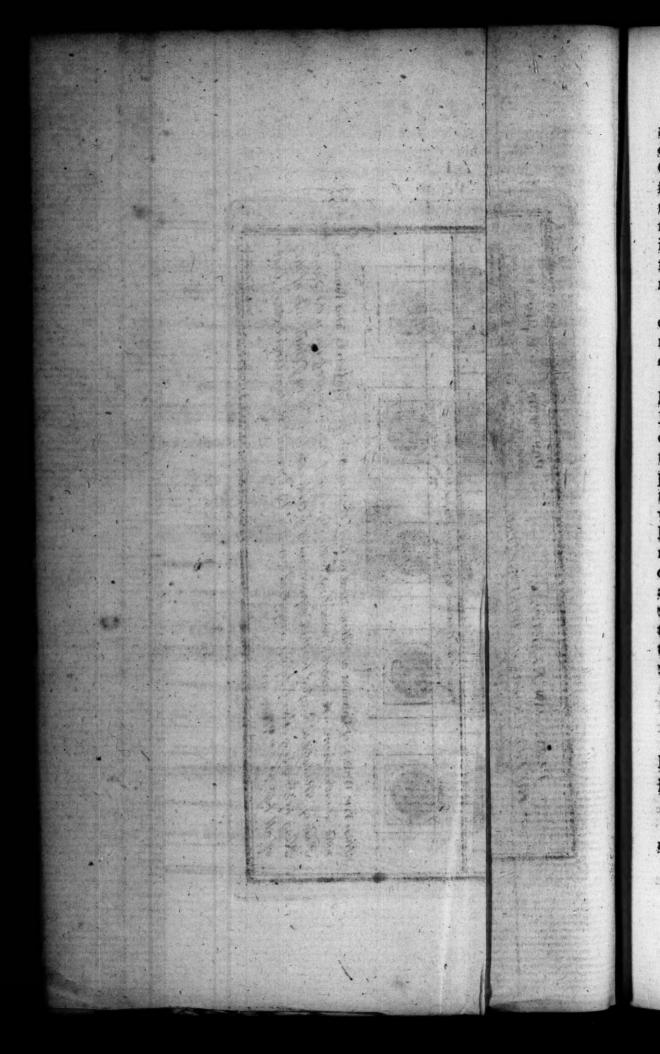
34. p. 657. put pencil to it. It is not known, whether it was this fecond Venus, or the first, that Augustus bought of the people of Cos, by discharging them An hundred of the tribute of an hundred talents, laid on them by the Roman republic. If it were the fecond, as is very likely, it had as bad a fate, and still worse than the first. In the time of Augustus, the damp had begun to spoil the lower part of it. Enquiry was made by that prince's order for fomebody to

^{*} Quo judicio ad mutas quadrupedes provocavit ab hominibus. A Versibus græcis tali opere, dum laudatur, victo, sed illustrato,



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Scale of Modules, & rectified by the Proportions of i Orders, which adorn in Buildings of the King of France, s other bdifices composed & erected by different Modern Architects, & last of all by Mels " Mansard .



retouch it; but there was none bold enough to undertake it, which * augmented the glory of the Greek painter, and the reputation of the work itfelf. This fine Venus, which no one dared to retouch, jout of veneration and awe, was infulted by the worms, that got into the wood, and devoured it. Ne o, who reigned then, caused another to be tet up in its place, done by a painter of little Dorotheus, is represented expiring by a ground.ston

Pliny observes to the reader, that all these wonderful paintings, which were the admiration of all mankind, were painted only with the four primitive colours, of which we have spoke.

Apelles brought up several disciples, to whom his inventions were of great advantage: but, fays Pliny, he had one feeret which nobody could ever discover, and that was the composition of a certain varnish, which he applied to his paintings, to preferve them during a long feries of ages, in all their freshness and spirit. There were three advantages in the use of this varnish: 1. It gave a lustre to every kind of colour: and made them more mellow, smooth and tender: which is now the effect of oil. 2. It preferved his works from dirt and dust. 2. It * helped the fight of the spectator which is apt to dazzle, in foftening the ftrength of the most lively colours, by the interposition of this varnish, which served instead of glasses to his and the tyrant Mnajon, who resented at the show

at Elitea in Phocis. If have hooke ellowhere of a Description of RISTIDES, don't succeed

Applications and was lound at Coringal when that One of the most famous cotemporaries of Apelles was Aristides the Theban. He did not indeed possess the elegance and graces in so high a degree

F Ipfa injuria cessit in gloriam artificis.

[†] Ne claritas colorum, oculorum aciem offenderet—& eadem res minis floridis coloribus austeritatem occulte daret. Plin.

as Apelles: * but was the first, that by genius and application established unerring rules for expressing the soul, that is to say, the inmost workings of the mind. He excelled as well in the strong and vehement, as the soft and tender passions: but his colouring had something harsh and severe in it.

The admirable piece + was his (still in Pliny's words) in which, in the storming of a town, a MOTHER is represented expiring by a wound she has received in her bosom, and an INFANT creeping to fack at her breaft. In the vilage of this woman, though dying, there appears the warmest fentiments, and the most passionate solicitude of the maternal tenderness. She seems to be sensible of her child's danger, and at the same time to be afraid, that instead of her milk she should find only blood. One would think Pliny had the pencil in his hand, he paints all he describes in such lively colours Alexander, who was fo fond of whatever was fine, was fo enamoured of this piece, that he caused it to be taken from Thebes, where it was, and carried to Pella, the place of his birth, at least to reputed; reader than thoom! Wellow shoul

The same person painted also the battle of the Greeks with the Persians, wherein, within a single frame, he introduced an hundred persons ‡ at a thousand drachmas (about twenty-four pounds) each figure, by an agreement made between him and the tyrant Mnason, who reigned at that time at Elatæa in Phocis. I have spoke elsewhere of a Bacchus, which was reckoned the master-piece of Aristides, and was found at Corinth, when that

city was taken by Mummins. I flore all le salo

I The text fays, ten minæ. The mina is worth an hundred drach-

He

Is omnium primus animum pinxit & fenfus omnes expressit.

⁺ Hujus pictura est, oppido capto ad matris morientis è vulnere mammam adrepaus infans; intelligiturque sentire mater & timere, ne, e mortuo lacte sanguinem sambat.

He was so excellent in expressing the languor of the body or mind, that Attalus, who was a great connoisseur of things of this kind, made no scruple to give an hundred talents for one of his paintings, An hundred wherein only fomething of this nature was expressed: thousand Only riches as immense as those of Attalus, which became a proverb, (Attalicis Conditionibus) could make fo exorbitant a price for a fingle picture probable:

PROTOGENES.

Protogenes was of the city of Caunus, upon the fouthern coast of the island of Rhodes, on which it depended. He employed himself at first only in painting ships, and lived a great while in extreme poverty. Perhaps that might be of no prejudice to him; for poverty often induces men to take pains, and is the fifter, or rather mother of invention and capacity. By the works he was employed to do at Athens, he became the admiration of the most discerning people in the world.

The most famous of his paintings was the JALY- Plin. 1. 35. sos; he was an hunter, fon or grandfon of the Sun, c. 10. and founder of Rhodes. What was most admired 1. 15.6. 31. in this piece was the froth at the dog's mouth. I Plut. in have related this circumftance at length, in speak-Demetr. ing of the fiege of Rhodes.

Another very celebrated picture of Protogenes, was the fatyr leaning against a pillar. He executed it at the very time Rhodes was belieged; wherefore it was faid to have been painted under the sword. At Strab.1.14. first there was a partridge perched upon the pillar. p. 652. But because the people of the place, when it was first exposed, bestowed all their attention and admiration upon the partridge, and faid nothing of the

Nescio quomodo bonæ mentis soror est paupertas. Petron. Vol. I. fatyr,

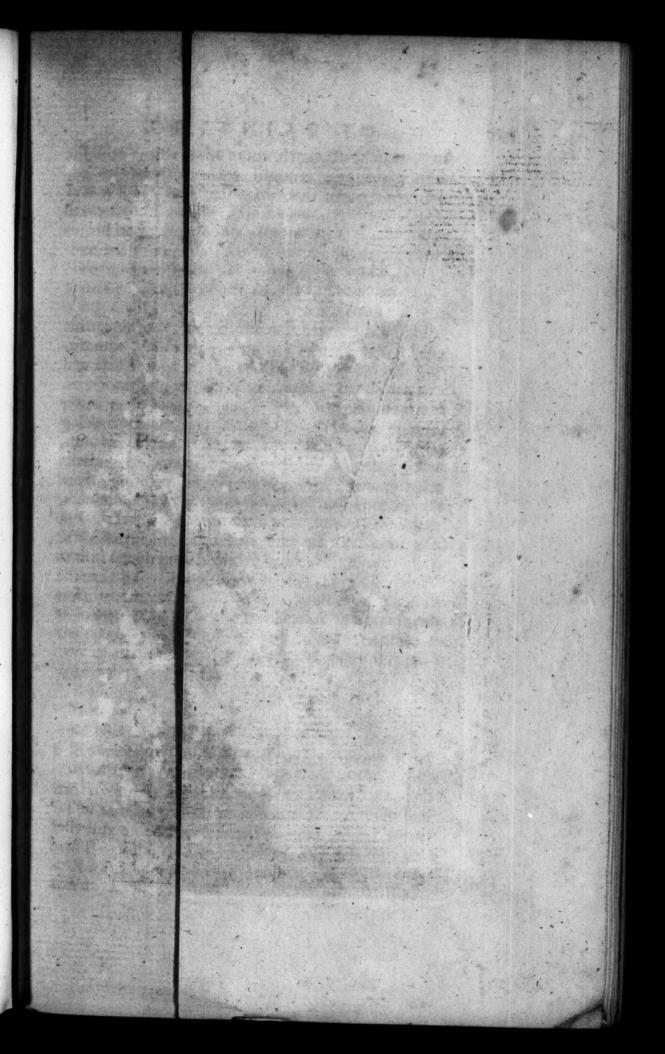
fatyr, which was much more admirable; and the tame partridges, brought where it was, called, upon the fight of that upon the pillar, as if it had been a real one; the painter, offended at that bad tafte, which in his opinion was an injury to his reputation, defired leave of the directors of the temple, in which the painting was confecrated, to retouch his work; which being granted, he ftruck

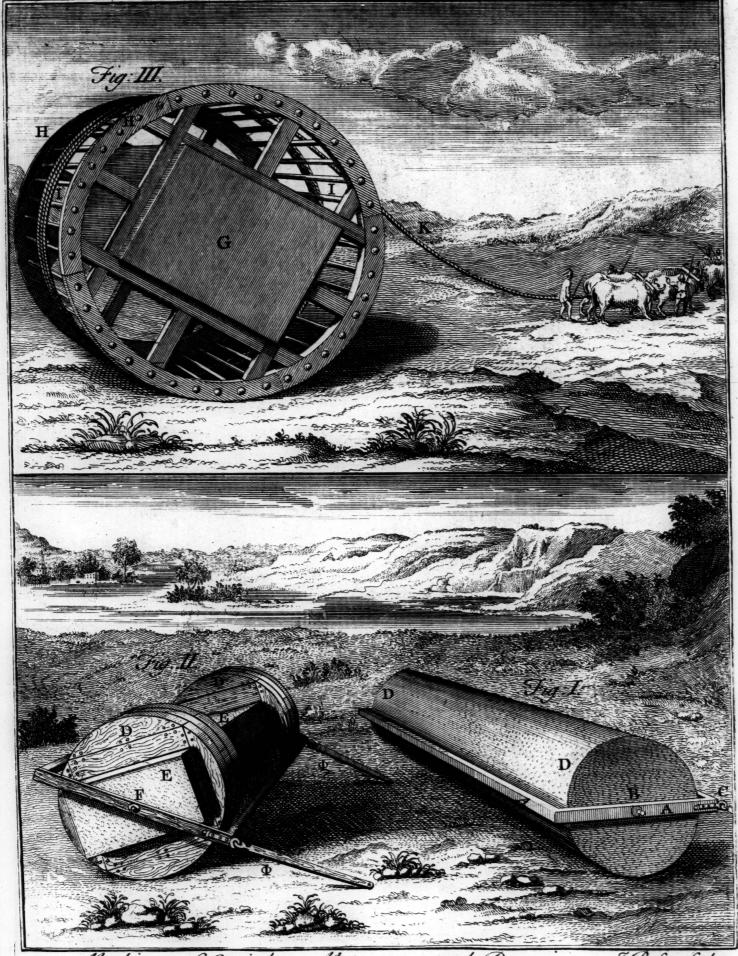
out the partridge.

He also painted the mother of Aristotle, his good friend. That celebrated philosopher, who during his whole life cultivated the polite arts and sciences, highly esteemed the talents of Protogenes. He even wished, that he had applied them better than in painting hunters or fatyrs, or in making portraits. And, accordingly he proposed to him, as a subject for his pencil, the battles and conquests of Alexander, as very proper for painting, from the grandeur of ideas, elevation of circumstances, variety of events, and immortality of facts. But a certain peculiar tafte, a natural inclination for more calm and grateful fubjects, determined him to works of the kind I have mentioned. All that the philosopher could obtain of the painter, at last, was the portrait of Alexander, but without a battle. It is dangerous to make excellent artists quit their tafte and natural talent.

PAUSIAS.

Pausias was of Sicyone. He distinguished himfelf particularly by that kind of painting called Caustic, from the colours being made to adhere either upon wood or ivory, by the means of fire. Pamphilus was his master in this art, whom he far excelled in it. He was the first that adorned arches and cielings with paintings of this kind. There were many considerable works of his doing. Paufanias





Machines of Ctesiphon, Metagenes and Laconius J. Bafire foulp. For removing great Stones.

fanias speaks of a DRUNKENNESS; so well painted, fays he, that all the features of her ruddy face may be distinguished through a large glass she is

fwilling.

The courtezan* Glycera, of Sicyone also, excelled in the art of making wreaths, and was looked upon to be the inventress of them. Pausias, to please and imitate her, applied himself also in painting flowers. A fine dispute arose betwixt art and nature, each using their utmost endeavours to carry the prize from their competitor, without its being

possible to adjudge the victory to either.

Pausias passed the greatest part of his life at Sicyone, his country, which was in a manner the nurfing mother of painters and painting. It is true, that this city being fo much indebted, in the latter times, that all the public and private paintings were pledged for large fums of money, M. Scaurus, Sylla's fon-in-law by his mother Metella, with defign to immortalize his edileship, paid all the creditors, and took out of their hands all the paintings of the most famous masters, and amongst the rest those of Pausias, carried them to Rome, and fet them up in the famous theatre, which he caused to be erected to the height of three stories, all supported by magnificent pillars of thirty feet high, to the number of three hundred and fixty, and embellished with statues of marble and bronze, and with antique pieces of the greatest painters. theatre was to continue only during the celebration of the games. Pliny fays of this edileship, that It compleated the subversion of the manners of the Roman citizens. Cujus (M. Scauri) nescio an Ædi-

^{*} Amavit in juventta Glyceram municipem suam, inventricem coronarum: certandoque imitatione ejus, ad numerosissimam slorum
varietatem perduxit artem illam—cum opera ejus pictura imitaretur, & illa provocans variaret, essetque certamen artis ac naturæ.

Plin. 1. 35. c. 11. & l. 21. c. 3.

litas maxime prostraverit mores civiles; and he goes so for as to add, that it did more prejudice to the republic, than the bloody proscription of his father-in-law Scylla, that cut off so many thousand Ro-

man citizens.

Nicias of Athens diftinguished himself very much amongst the painters. There were abundance of his pictures in exceeding estimation; amongst others, that wherein he had drawn Ulysses's descent into hell, called nexusa, Attalus, or rather, according to Plutarch, Ptolomy, offered him for this picture fixty talents, (fixty thousand crowns) which seems almost incredible: but he refused them, and made it a present to his country. He laboured upon this piece with fuch application, that he often forgot the time of the day, and would ask his fervant, Have I dined? * When Praxiteles was asked upon which of his works of marble he fet the highest value, he answered, That to which Nicias has set bis hand. He meant by that the excellent varnish added by that painter to his marble flatues, which exalted their beauty.

I shall not mention abundance of other great painters, not so well known, nor so illustrious as those I have spoken of, who did so much honour to

Greece.

It is very unfortunate that none of their works have come down to us, and that we are not capable of judging of their merit by our own eyes. We have it in our power to compare the antique sculpture of the Greeks with our own, because we are certain that we still have master-pieces of it, that is to say, the finest works of that kind antiquity produced. The Romans, in the age of their greatest splendor, which was that of Augustus, disputed

Hic est Nicias de quo dicebat Praxiteles interrogatus quæ maxime opera sua probaret in marmoribus: Quibus Nicias manum admovisset; tantum circumsitioni ejus tribuebat. Plin. l. 35. c. 11.

with the Greeks only ability in the art of government. They acknowledged them their masters in all others, and expressly in that of sculpture:

Excudent alii spirantia molliùs æra

Credo equidem; vivos ducent de marmore vultus.

Tu regere imperio populos, Romane, memento:

Hæ tibi erunt artes.

Virg. Æneid. 1. 6.

What I have related of Michael Angelo, who preferred the Cupid of Praxiteles so much to his own, is an evident proof, that the modern can, no more than the antient Rome, dispute sculpture with the Greeks.

We cannot judge in the same manner of the excellency of the antient painters. That question is not to be decided from mere relations. To understand that, it were necessary to have their pieces to compare with each other, and with ours. These we want. There are still some antique Mosaic paintings at Rome; but sew done with the pencil, and those in bad condition. Besides which, what remains, and was painted at Rome upon the walls, were not done till long after the death of the celebrated painters of Greece.

It must, however, be owned, that, every thing considered, the prejudices are extremely in savour of antiquity, even in regard to painting. In the time of Crassus, whom Cicero introduces as a speaker, in his books de Oratore, people could never sufficiently admire the works of the antient painters, and were soon tired with those of the moderns; because in the former there was a taste of design and expression, that perpetuated the raptures of the connoisseurs, and in the latter scarce any thing to be found, but the variety of the colouring. "I do not know, says Crassus*, how it happens,

b hor ile ogioletoque denestron.

^{*} Difficile dictu est, quæ nam causa sit cur ea, quæ maxime sensus postros impellunt voluptate & specie prima acerrime commovent,

that things which strike us at first view by their

Ifæo. p.

104.

" vivacity, and which even give us pleasure by " that furprife, almost as foon disgust and fatiate Let us, for instance, consider our modern paintings. Can any thing be more splendid and " lively? What beauty, what variety of colours! " How superior are they in this point to those of " the antient! However, all these new pieces, " which charm us at first fight, have no long imof proffion; whilft, on the contrary, we are never tired with contemplating the others, notwith-" flanding all their simplicity, and even the grof-" nefs of ther colouring." Cicero gives no reason for these effects: But Dionysius Halicarnassensis, licarn. in who lived also in the time of Augustus, does. The antients, fays he, were great defigners, and understood perfectly all the grace and force of expression, though their colouring was simple and little various. But the modern painters, who excel in colouring and shades, are vastly far from defigning fo well, and do not treat the pafso fions with the same success." This double testimony shews us, that the antients had succeeded no less in painting than sculpture: and their superiority in the latter no-body ever contested. It appears at least, without carrying any thing to extremes, that that the antients role as high in the parts of defign, chiaro-oscuro, (light and shade) expression and composition, as the most excellent moderns can have done; but, as to colouring, that they were much

> I cannot conclude what regards painting and sculpture, without deploring the abuse made of it,

inferior to the latter.

ab iis celerrime fastidio quodam & fatietate abalienamur. Quanto colorum pulchritudine & varietate floridiora sunt in picturis novis pleraque quam in veteribus! quæ tamen, etiamsi primo aspectu nos ceperunt, diutius non delectant: cum iidem nos, in antiquis tabulis, illo ipso horrido obsoletoque teneamur. Cic. de orat. 1. 3. fill allo diese off, quit nom contact to the ed. can an

marines subvise and a second of sections to be built

even by those who have most excelled in it: I speak equally of the antients and moderns. All the arts in general, but especially the two we are now upon, so estimable in themselves, so worthy of admiration, which produce such amazing esfects, that by the strokes of the chissel animate marble and brass; and, by the mixture of colours, represent all the objects of nature to the life: these arts, I say, owe a particular homage to virtue; to the honour and advancement of which, the original author and inventor of all arts, that is to say, the Divinity himself,

has peculiarly allotted them.

This is the use which even the Pagans believed themselves obliged to make of sculpture and painting, by consecrating them to the memory of great men, and the expression of their glorious actions. *Fabius, Scipio, and the other illustrious persons of Rome, confessed, that upon seeing the images of their predecessors, they found themselves animated to virtue in an extraordinary manner. It was not the wax of which those sigures were formed, nor the sigures themselves, that produced such strong impressions in their minds; but the sight of the great men, and the great actions of which they renewed and perpetuated the remembrance, and inspired at the same time an ardent desire to imitate them.

Polybius observes, that these images, that is to P. 495, fay, the busto's of wax, which were exposed on the days of solemnity in the halls of the Roman magistrates, and were carried with pomp at their funerals, kindled an incredible ardor in the minds of the young men, as if those great men had quitted

their

Sæpe audivi Q. Maxumum, P. Scipionem, præterea civitatis nostræ præclaros viros solitos ita dicere, cum majorum imagines intuerentur, vehementissime sibi animum ad virtutem accendi. Scilicet non ceram illam, neque figuram, tantam vim in sese habere: sed memoria rerum gestarum eam slammam egregiis viris in pestore crescere, neque prius sedari, quam virtus corum samam atque gloriam adæquaverit. Sallust. in prasat. bel, Jugurth.

their tombs, and returned from the dead, to animate them in person to follow their example.

Agrippa*, Augustus's son-in-law, in a magnificent harangue, worthy of the first and greatest citizen of Rome, shews, by several reasons, says Pliny, how useful it would be to the state to expose publicly the finest pieces of antiquity in every kind, in exciting a noble emulation in the youth: which, no doubt, adds he, would be much better than to banish them into the country, to the gardens and other places of pleasure of private men.

Accordingly Aristotle says, that sculptors and painters instruct men to form their manners by a much shorter and more effectual method than that of the philosophers; and that there are paintings as capable of making the most vicious reflect within themselves as the finest precepts of morality. St. Gregory Nazianzen relates a story of a courtezan, who, in a place where she did not come to make ferious reflections, cast her eyes by accident on the picture of Polæmon, a philosopher famous for a change of life, that had fomething prodigious in it; which occasioned her to reflect seriously, and brought her to a due sense of herself. Cedrenus tells us, that a picture of the last judgment contributed very much to the conversion of a king of the Bulgarians. The sense + of seeing is far more lively than that of hearing; and an image, which represents an object in a lively manner, firikes us quite otherwise than

Hor

Extat ejus (Agrippæ) oratio magnifica, & maximo civium digna, de tabulis omnibus fignisque publicandis: quod fieri satius suisset, quam in villarum exista pelli. Plin. 1.'35. c. 4.

⁺ Segnius irritant animos demissa per aures, Quam quæ sunt oculis subject sidelibus.

Things by the ear a dull impression find, To those the faithful eye presents the mind.

Sie intimos penetrat sensus (pictura) ut vim dicendi nonnunquam superare videatur. Quintil.

a discourse. St. Gregory of Nyssa declares, that he was touched even to shedding of tears, at the

fight of a painting.

This effect of painting is still more instant in regard to bad than good, * Virtue is foreign, vice natural to us. Without the help of guides or examples, (and those we meet with every-where) an easy propensity leads us to the latter, or rather hurries us on to it. What then must we expect, when sculpture, with all the delicacy of art, and painting, with all the vivacity of colours, unite to inflame a passion already but too apt to break out, and too ardent of itself? What loose ideas do not those naked parts of young persons fuggest to the imagination, which sculptors and painters fo commonly take the liberty to exhibit? + They may do honour to the art, but never to the artifts.

Without speaking of Christianity in this respect, which abhors all licentious sculptures and paintings, the fages of the Pagan world, blind as they were, Ariftot. in condemn them almost with equal severity. Aristotle, Polit. 1. 7in his books De republica, recommends it to magistrates, as one of the most essential parts of their duty, to be attentive in preventing statues and paint- Peccare doings of this kind from appearing in cities, as they centes hifare capable of teaching vice, and corrupting all net. Hor. the youth of a state. ‡ Seneca degrades painting and sculpture, and denies them the name of liberal arts, whenever they tend to promote vice.

Ad deteriora faciles sumus; quia nec dux potest, nec comes deesse; & res etiam ipsa scire duce, fine comite procedit: non pronum eft tantum ad vitia, sed præceps [iter.] Senec. Epift. 97.

+ Non hic per nudam pictorum corporum pulchritudinem turpis prostat historia, quæ sicut ornat artem, sic devenustat artisicem. Sidon. Apollin. 1. 11. Ep. 2.

toned H

I Non enim adducor ut in numerum liberalium artium pictores recipiam, non magis quam statuarios aut marmoreos, aut cæteros luxuriæ ministros. Senec. Ep. 88.

Pliny the naturalist, all enthusiasm as he is, for the beauty of the antique works, treats as dishonourable and criminal the behaviour of a painter in this Plin. 1. 35. point, who was otherwise very famous: Fuit Arellius Roma celeber, nisi Flagitio insignification. He expresses a just indignation against the

artem. He expresses a just indignation against the sculptors, who carved obscene images upon cups and goblets, that people might not drink, in some measure, without obscenity; as if, says he, drunkenness did not sufficiently induce debauchery, and it were necessary to excite it by new attractions: Vasa adulteriis culata, quasi per se parum doceat libidinem

temulentia——Ita vina ex libidine bauriuntur, atque esiam præmio invitatur ebrietas.

The very poets themselves declare warmly against this indecency. Propertius wonders, that temples are erected in public to chastity, whilst immodest pictures are tolerated in private houses, which cannot but corrupt the imaginations of young virgins; that, under the allurement of objects grateful to the eye, conceal a mortal poison to the heart, and seem to give public lessons of impurity. He concludes with saying, that those indecent sigures were unknown to our ancestors; the walls of their apartments were not painted by obscene hands, to place vice in honour; nor exhibit it as a spectacle for admiration. The passage is too sine not to be inserted

Templa Pudicitiæ quid opus statuisse puellis,
Si cuivis nuptæ quidlibet esse licet?
Quæ manus obscænas depinxit prima tabellas,
Et posuit casta turpia visa domo:
Illa puellarum ingenuos corrupit ocellos,
Nequitiæque suæ noluit esse rudes.
Ah! gemat in terris, ista qui protulit arte
Jurgia sub tacita condita lætitia.
Non istis olim variabant tecta siguris:
Tum paries nullo crimine pictus erat.

Whence

Id. l. 14, c. 22.

Propert.
1. 2. Eleg.

here at large.

Whence rise these fanes to virgin modesty,
If every wife to every thing is free?
Who sirst obscenity in colours drew,
In the chaste house who plac'd it first to view,
Desil'd the harmless maid's ingenuous eyes,
And would not leave her ignorant of vice?
Woe to the man! whose vicious pencil taught
In grateful tints to urge a guilty thought:
Our fathers homes ne'er own'd these noxious arts;
No crimes were painted on their walls or hearts.

We have feen a city, that had the choice of two statues of Venus, both done by Praxiteles, that is saying every thing, the one covered, and the other naked, prefer the former, though much the less esteemed, because more conformable to modesty and chastity. Can any thing be added to such an example? What a reproach were it to us, if we were assumed to follow it!

protect to be used as decisioning, contained also the art of composing area veging notes to the flagula decision; the disect as well also tone of the verto by accessors, as the dispression in the article of the dispression in the article of the unitarity and the accessor which have accurate and the few reasons, which have accurate anatorial relation to a contest, compared originally case, and the firm of the exercises or the large article; though they are not as a process of time, appearing poerry,

I to all briefly treat all these pains, except they which relates to verifice enough which will have impled a lieschere; and shall begin with mally property to cauco, and shall begin with mally property to cauco, and shall be it is known and once the

which become an order by inch.

far greater extent than is generally imagined

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CHAPTER VI.

Defired the marriels miles ingremmingues

The second of the State of OF MUSIC.

Our fathers kendes me or our titles muchant arte to HE Music of the antients was a science of far greater extent than is generally imagined. Besides the composition of musical airs, and the execution of those airs with voices and instruments, to which ours is confined, the antient music included the art of poetry, which taught the rules for making verses of all kinds, as well as to set those susceptible of them to notes; the art of Saltation, dancing or gesture, which taught the step and attitude, either of the dance properly fo called, or the usual manner of walking, and the gesture proper to be used in declaiming, contained also the art of composing and writing notes to the simple declamation; to direct as well the tone of the voice by those notes, as the degree and motions of gefture; an art very much in use with the antients, but absolutely unknown to us. All these dif. ferent parts, which have actually a natural relation to each other, composed originally one and the fame art, exercised by the same artists; though they divided in process of time, especially poetry, which became an order by itself.

I shall briefly treat all these parts, except that which relates to versification, which will have its place elsewhere; and shall begin with music properly fo called, and fuch as it is known amongst us.

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Of music properly so called.

USIC is an art, which teaches the properties of founds capable of producing melody and harmony.

od rebliewer SECT. I. Intelligence

Origin and wonderful effects of music.

S OME authors pretend, that the birds learnt men to fing, in suggesting by their various notes and warbling, how capable the different modulations and tones of the voice are of pleasing the ear: But man had a more excellent master, to whom

alone he ought to direct his gratitude.

The invention of music, and of the instruments in which a principal part of it consists, is a present from God, as well as the invention of the other arts. It adds to the simple gift of speech, which of itself is so highly valuable, something more lively, more animated, and more proper to give utterance to the fentiments of the foul. When it is penetrated and fired with some object that strongly possesses it, the usual language does not suffice for its transports. It springs forth in a manner out of itself, it abandons itself to the emotions that agitate it, it invigorates and redoubles the tone of the voice, and repeats its words at different pauses; and not contented with all these efforts, calls in instruments to its aid, which feem to give it eafe, by lending founds a variety, extent, and continuation, which the human voice could not have.

This

This gave birth to music, made it so affecting and estimable, and shews at the same time, that properly speaking, its right use is in religion solely, to which alone it belongs, to impart to the soul the lively sentiments which transport and ravish it, which exalt its gratitude and love, which are suited to its admiration and extacies, and which make it experience that it is happy, in applauding, to use the expression, its joy and happiness, as David did in all his divine songs, that he employs solely in adoring, praising, giving thanks, and singing the greatness of God, and proclaiming the wonders of his power.

Such was the first use men made of music, simple, natural, and without art or refinement in those times of innocence, and in the infancy of the world; and without doubt the family of Seth, with whom the true worship was deposited, preserved it in all its purity. But secular persons, more instanced to sense and passion, and more intent upon softening the pains of this life, upon rendering their exile agreeable, and alleviating their distresses, abandoned themselves more readily to the charms of music, and were more industrious to improve it, to reduce it into an art, to establish their observations upon certain rules, and to support, strengthen, and diversify it by the help of instru-

ments.

The Scripture accordingly places this kind of music in the family of Cain, which was that of the outcasts, and makes Jubal, one of the descendants of that chief of the unrighteous, the author of it. And we see in effect, that music is generally devoted to the objects of the passions. It serves to adorn, augment, and render them more affecting; to make them penetrate the very soul by additional charms; to render it the captive of the sense; to make it dwell wholly in the ears; to inspire it with a new

Gen. iv.

a new propensity to seek its consolation from without; and to impart to it a new aversion for useful resections and attention to truth. The abuse of music, almost as antient as its invention, has occasioned Jubal to have more imitators than David. But this ought not to cast any reproach upon music itself. For, as Plutarch observes upon this Plut. de subject, sew or no persons of reason will impute to Music, the sciences themselves the abuse some people make of them: which is solely to be ascribed to the disposition to vice of those who profane them.

This exercise has in all times been the delight of all nations, of the most barbarous, at well as of those who valued themselves most upon their civility. And it must be confessed, that the * Author of nature has implanted in man a tafte and fecret tendency for fong and harmony, which ferve to nourish his joy in times of prosperity, to dispel his anguish in affliction, and to comfort him in supporting the pains and fatigues of his labours. There is no artificer that has not recourse to this innocent invention; and the flightest air makes him almost forget all his fatigues. The harmonious cadence with which the workmen strike the glowing mass upon the anvil, feems to lessen the weight of their heavy hammers. The very rowers experience a kind of relief in the fort of concert formed by the harmonious and uniform motion of their oars. + The antients successfully employed musical instruments, as is still the custom, to excite martial ardor in the hearts of the foldiery; and Quintilian

* Atque eam (musicam) natura ipsa videtur ad tolerandos faciliùs labores velut muneri nobis dedisse. Si quidem & remiges cantus hortatur: nec solum in ils operibus in quibus plurimum conatus præeunte aliqua jucunda voce conspirat, sed etiam singulorum fatigatio quamlibet se rudi modulatione solatur. Quintil. 1. 1. c. 10.

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[†] Duces maximos & fidibus & tibiis cecinisse traditum, & exercitus Lacedæmoniorum musicis accensos modis. Quid autem aliudin nostris Legionibus cornua ac tubæ faciunt? quorum concentus, quanto est vehementior, tanto Romana in bellis gloria cæteris præstat. Quintil. 1. 1. c. 10.

partly ascribes the reputation of the Roman troops. to the impressions made by the warlike founds of

fifes and trumpets upon the legions.

I have faid, that music was in use amongst all nations: but it was the Greeks who placed it in honour, and by the value they set upon it, raised it to a very high degree of perfection. * It was a merit with their greatest men to excel in it, and a kind of shame to be obliged to consess their ignorance in it. No hero ever made Greece more illustrious than Epaminondas: his dancing gracefully, and touching musical instruments with skill, were reckoned amongst his fine qualities. Some years before his time, the resusal of Themistocles, at a feast, to play an air upon the lyre, was made a reproach, and was a kind of dishonour to him. To be ignorant of music passed in those times for a great desect of education.

It is in effect of this that the most celebrated philosophers, who have left us treatises upon policy, as Plato and Aristotle, particularly recommended the teaching of music to young persons. Amongst the Greeks it was an effential part of education. Besides which, it has a necessary connection with that part of Grammar called *Prosody*, which treats upon the length or shortness of syllables in pronunciation, upon the measure of verses, their rhyme and cadence, (or pauses;) and principally upon the manner of accenting words: the antients were assured that it might conduce very much to form the manners of youth, by introducing a kind of harmony into them, which might incline them

In ejus Epimanondæ virtutibus commemorabatur, faltaffe eum commodè, scienterque tibiis cantaffe. Corn. Nep. in prefat.

^{*} Summam eruditionem Græci sitam censebant in nervorum voeumque cantibus. Igitur Epaminondas princeps, meo judicio, Græciæ, fidibus præclarè cecinisse dicitur: Themistoclesque, aliquot ante annis, cum in epulis recusasset lyram, habitus est indoctior. Ergo in Græcia musici storuerunt, discebantque id omnes; nec, qui nesciebat, satis excultus doctrinà putabatur. Cic. Tusc. 1. n. 4.

to whatsoever was laudable and polite; nothing being of greater use, according to Plutarch, than Plut. de music to excite persons at all times to virtuous Musica actions, and especially to confront the dangers of war.

Music was far from being much esteemed in the In præfat; happy times of the republic. It passed in those days for a thing of little consequence, as Cornelius Nepos tells us, where he observes, upon the different taste of nations, in regard to several things. Sallust's reproach of a Roman lady, that she knew In bell. better how to fing and dance, than was confiftent Catilin. with the character of a woman of honour and probity; saltare & pfallere elegantius quam necesse est probe; sufficiently shews what the Romans thought of music. As to dancing, they had a strange idea of it; and would fay, that; to practife it, one should either be drunk or mad: Nemo saltat fere sobrius, Cic. in nisi forte insanit. Such was the Roman severity, orat. pro-Muran. till their commerce with the Greeks, and still more, n. 13. their riches and opulence made them give into the ceffes, with which the Greeks cannot so much as be reproached.

The antients attributed wonderful effects to mufic; either to excite or suppress the passions, or to soften the manners, and humanize nations naturally

favage and barbarous.

Pythagoras, * feeing a young stranger, who was heated with the fumes of wine, and at the same time animated by the sound of a slute, played on in the Phrygian measure, upon the point of committing violence in a chaste family, restored the young man's tranquillity and reason, by ordering the semale minstrel to change the measure, and to play in more solemn and serious numbers, according to the cadence called after the foot Spondee.

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Galen

Pythagoram accepimus, concitatos ad vim pudicæ domui afferendam juvenes, justa mutare in spondæum modos tibicina, compofuiste. Quintil. 1. 1. c. 10.

De placit. Hippoc. & Platel 519 c. 6. silvil

Galen relates fomething exactly of the fame nature, of a musician of Miletus, named Damon. He tells us of some young people, that a female performer upon the flute had made frantic, by playing in the Phrygian measure, and whom fhe brought to their fenses again, by the advice of this Damon, in changing the music from the Phrygian to the Doric measure.

Orat. 1. de regn. init.

Alex. p. 335.

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Polyb. l. 4. p. 289,

291.

Dion Chrysoftome, and some others, inform us, that the musician Timotheus, playing one day upon the flute before Alexander the Great, in the measure called 'ogrie, which is of the martial kind, De fortun. that prince immediately ran to his arms. Plutarch fays almost the same thing of Antigenides the flutenist, who at a banquet fired that prince in such a manner, that, rifing from the table like one out of his fenses, he catched up his arms, and clashing them to the found of the flute, was almost ready to charge the guests.

Amongst the wonderful effects of music, nothing more affecting perhaps, nor better attested, can be instanced, than what regards the Arcadians. Polybius, a wife, exact historian, well worthy of entire belief, is my authority. I shall only abridge

his narrations and reflections.

The study of music, says he, has its utility with all men, but is absolutely necessary to the Arcadians. This people, in establishing their republic, though otherwise very austere in their manner of life, had so high an opinion of music, that they not only taught that art to their children, but obliged young people to apply to it till the age of thirty. Is is not shameful amongst them to profess themselves ignorant of other arts: but it is highly dishonourable not to have learnt to fing, and not to be able to give proofs of it on occasion.

Now, fays Polybius, their first legislators seem to me, in making fuch institutions, not to have defigned to introduce luxury and effeminacy, but

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only to foften the ferocity of the Arcadians, and to divert, by the practice of music, their gloomy and melancholy disposition, undoubtedly occasioned by the coldness of the air, which the Arcadians breathe almost throughout their whole country.

But the Cynethians having neglected this aid, of which they had the most need, as they inhabited the rudest and most savage part of Arcadia, both as to the air and climate, at length became so fierce and barbarous, that there was no city in Greece wherein so great and so frequent crimes

were committed, as in that of Cynethia.

Polybius concludes this account, with observing, that he had infifted the more upon it for two reafons. The first, to prevent any of the Arcadian states, out of the false prejudice that the study of music is only a superfluous amusement amongst them, from neglecting that part of their discipline. The fecond, to induce the Cynethians to give mufic the preference to all other sciences, if ever God (the expression is remarkable) if ever God should inspire them to apply themselves to arts that humanize a people. For that was the fole means to correct their natural ferocity.

I do not know whether it be possible to find any thing in antiquity which equals the praise Polybius here gives music: and every one knows what kind of personage Polybius was. Let us add here what the two great lights of the antient philosophy, Plato and Aristotle, say of it, who frequently recommend the study of it, and very much extol its advantages. Can a more authentic and favourable testimony be defired? But that the authority of thefe great men may not impose upon us, I ought here to mention what kind of mulic they would be understood to mean. Quintilian, who had the same Quintil. thoughts upon this head, will explain their opi- 1. 1. c. 101 nion: it is in a chapter, where he had given music the highest praise. " Though the examples I

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"have cited, fays he, fufficiently shew what spe-"cies of music I approve, I think myself, how-" ever, obliged to declare here, that it is not the " fame with which the theatres in these days re-" found, that by its wanton and effeminate airs, " has not a little contributed to extinguish and " suppress in us whatever remained of our antient " manly virtue:" Apertius profitendum puto, non banc a me præcipi, quæ nunc in scenis effeminata, & impudicis modis fracta, non ex parte minima, si quid in nobis virilis roboris manebat, excidit. " When I " recommend music therefore, it is that of which " men filled with honour and valour made use, in " finging the praises of others like themselves. It " is as far from my intent to mean here those dan-" gerous instruments, whose languishing founds " convey foftness and impurity into the foul, and " which ought to be held in horror by all persons " of sense and virtue. I understand that agree-" able art of affecting the foul by the powers of "harmony, in order either to excite or affuage the " passions, according to occasion and reason."

It is this fort of music that was in so much esteem with the greatest philosophers and wisest legislators amongst the Greeks, because it civilizes savage minds, softens the roughness and ferocity of dispositions, renders people more capable of discipline, makes society more grateful and joyous, and gives horror for all the vices which incline men to

inhumanity, cruelty and violence.

It is not without its advantages to the body, and conduces to the cure of certain diffempers. What is related of the wonderful effects of mufic, upon such as have been bit by the Tarantula, would appear incredible, if not supported by authorities, to which we cannot, with reason, refuse our belief.

Memoirs of The Tarantula is a large spider with eight eyes, the Acad. of Sciences. and as many legs. It is not only to be found about An. 1702.

Tarento, or in Puglia; but in several other parts

of Italy, and in the island of Corfica.

Soon after a man is bit by a Tarantula, the part affected feels a very severe pain, succeeded in a few hours by a numbness. He is next seized with a profound melancholy, can scarce respire; his pulse grows faint, his sight is interrupted and suspended, till at last he loses all sense and motion, and dies, unless assisted in time. Physicians use several remedies for the cure of this illness, which would be useless, if music did not come in to their aid.

When the person bit is without sense and motion. a performer upon musical instruments tries different airs; and, when he hits upon that which in its tones and modulation fuits the patient, he begins to stir a little; at first he moves his fingers to the time, then his arms and legs, and by little and little his whole body; at last he gets up and dances, continually increasing his activity and force. Some of these will dance fix hours without resting. After this they are put to bed, and, when it is supposed that they have fufficiently recovered their first dance, they are brought out of bed by the fame tune to begin again. This exercise continues several days, about fix or feven at most, till the patient finds himself tired, and incapable to dance any longer, which denotes his being cured. For, as long as the poison operates upon him, he would dance, if he were fuffered, without ceasing, and die by exhausting his spirits. The patient, that begins to perceive himself weary, recovers his understanding and fenses by degrees, and comes to himself, as it he waked out of a deep fleep, without remembering what had past during his disorder, not even his dancing. This is a very extraordinary cafe, but absolutely true; of which I must leave it to phylicians to explain the cause.

SECT. II.

Inventors and improvers of music, and musical instru-

THE profane historians ascribe the discovery of the first rules of music to their fabulous Mercury, others to Apollo, and some to Jupiter himself. They undoubtedly intended thereby to infinuate, that so useful an invention ought to be attributed only to the gods, and that it was an error to do any man whatsoever the honour of it.

Plutarch's treatife upon music, explained and set in a true light by the learned remarks of Mr. Burette, will supply me with a great part of what I shall relate of the history of those, who are said to have contributed most the improvement of this art. I shall content myself with simply pointing out the most antient, who are almost known only in fabulous history, without confining myself to the order of time.

AMPHION.

Amphion is held by some to be the inventor of the * Cithara, or lyre; for these two instruments were very little different, as I shall shew in the sequel, and are often consounded with each other by authors. It is conjectured, that the fable of Thebes being built by the sound of Amphion's lyre, is later than Homer's time, who does not mention it, and would not have failed to have adorned his poems with it, had he known it.

The cotemporaries of Amphion were Linus; Anthes, Pierius, and Philammon. The last was

^{*} I shall call this instrument so, as often as I shall have occasion to speak of it; because our Guitar or Lute, which derives its name from it, is a quite different kind of instrument.

father of the famous Thamyris, the finest voice of his time, and the rival of the muses themselves, who having been abandoned to the vengeance of those goddesses, lost his fight, voice, understanding, and even the use of his lyre.

ORPHEUS.

The reputation of Orpheus flourished from the expedition of the Argonauts, of which number he was; that is to fay, before the Trojan war. Linus was his master in music, as he was also of Hercules, Orpheus's hiftory is known by all the world,

marriage, and was educated with great care-

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Hyagnis is faid to have been the first player upon the flute. He was the father of Marsyas, to whom the invention of the flute is afcribed. The latter ventured to challenge Apollo, who only came off victor in this dispute, by joining his voice with the found of his lyre. The vanquished was flead alive. obtained the prize in the Cardian games, which

were not the no OLYMPIUS SHUTTHE TOR STOW

There were two of this name, both famous players upon the flute. The most antient, who was by birth a Mysian, lived before the Trojan war. He was the disciple of Marsyas, and excelled in the art of playing npon string-instruments.

The fecond Olympius was a Phrygian, and flourished in the time of Midas.

DEMODOCUS. PHEMIUS.

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Homer praises these two musicians in several parts of the Odyssey. Demodocus had composed two poems: the one upon the taking of Troy, the other upon the nuptials of Venus and Vulcan. Homer, R 4

Homer makes them both fing in the palace of Alcinous king of the Pheacians, in the presence of Ulysses. He speaks of Phemius as of a singer inspired by the gods themselves. It is he who, by the singing of his poetry set to music, and accompanied with the sounds of his lyre, inlivens the banquets, in which the suitors of Penelope pass whole days.

The author of the life of Homer ascribed to Herodotus affirms, that Phemius settled at Smyrna; that he taught youth grammar and music, and married Critheis there, whose illegitimate son Homer was. He tells us, Homer was born before this marriage, and was educated with great care by his

father-in-law, after he had adopted him.

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Authors do not agree with each other concerning Terpander's country, nor the time in which he lived. Eusebius places it in the 33d olympiad. This epocha ought to be of later date, if it be true, that this poet and musician was the first who obtained the prize in the Carnian games, which were not instituted at Lacedæmon till the 36th olympiad.

Besides this victory, which did great honour to Terpander's ability in musical poetry, he signalized himself by this art upon several other very important occasions. Much is said of the sedition, which he had the address to appease at Lacedæmon by his melodious songs, accompanied with the sounds of his Cithara. He also carried the prize four times

fuccessively at the Pythian games.

It appears that, the elder Olympius and Terpander having found the lyre in their youth only with four strings, they used it as it was, and distinguished themselves by their admirable execution upon it. In process of time, to improve that instrument,

they both made additions to it, especially Terpan-

der, who made its ftrings amount to feven.

This alteration very much displeased the Lace-dæmonians, amongst whom it was expressly forbidden to change or innovate any thing in the antient music. Plutarch tells us, that Terpander had a fine laid on him by the Ephori, for having added a single string to the usual number of the lyre; and had his own hung up by a nail for an example. From whence it appears, that the lyre of those times was already strung with six chords.

From what Plutarch says, it appears, that Terpander at first composed lyric poems in a certain measure, proper to be sung, and accompanied with the Cithara. He afterwards set these poems to such music, as might best suit the Cithara, which at that time repeated exactly the same sounds as were sung by the musician. In fine, Terpander put the notes of this music over the verses of the songs composed by him, and sometimes did the same upon Homer's poems; after which he was able to perform them himself, or cause others to do so, in the public games.

Prizes of poetry and music, which were seldom or ever separate, were proposed in the sour great games of Greece, especially in the Pythian, of which they made the greatest and most considerable part. The same thing was also practised in several other cities of the same country, where the like games were celebrated with great solemnity, and a

vast concourse of spectators.

PHRYNIS.

Phrynis was of Mitylene, the capital of the island of Lesbos. He was the scholar of Aristoclitus for the harp, and could not fall into better hands, that master being one of Terpander's descendants. He is said to have been the first who obtained

obtained the prize of this instrument in the games of the Panathenea, celebrated at Athens the fourth year of the 80th olympiad. He had not the same success, when he disputed that prize with the mufician Timotheus.

Phrynis may be confidered as the author of the the first alterations made in the antient music, with regard to the Cithara. These changes consisted, in the first place, in the addition of two new strings to the feven, which composed that instrument before him; in the fecond place, in the compass and modulation, which had no longer the noble and manly simplicity of the antient music. Aristophanes reproaches him with it in his comedy of the Clouds, wherein Justice speaks in these terms of the antient education of youth. They went together to the house of the player upon the Cithara—where they learned the bymn of the dreadful Pallas, or some other song, which they sung according to the harmony delivered down to them from their ancestors. If any of them ventured to fing in a buffoon manner, or to introduce inflections of voice, like those which prevail in these days in the airs of Phrynis, he was punished severely.

Phrynis having presented himself in some public games at Lacedæmon, with his Cithara of nine strings, Ecprepes, one of the Ephori, would have two of them cutaway, and suffered him only to chuse whether they should be the two highest or the two lowest. Timotheus, some short time after, being present upon the same occasion at the Carnian games, the Ephori acted in the same manner with regard to him.

TIMOTHEUS, and saved

Timotheus, one of the most celebrated musician poets, was born at Miletus, an Ionian city of Caria, in the third year of the 93d olympiad. He flourished at the same time with Euripides and Philip

Philip of Macedon, and excelled in lyric and

dithyrambic poetry. believed in bank and and a QUV

He applied himself particularly to music, and playing on the Cithara. His first endeavours were not fuccessful, and he was hissed by the whole people. So bad a reception might have discouraged him for ever; and he actually intended to have entirely renounced an art, for which he did not feem intended by nature. Euripides undeceived him in that mistake, and gave him new courage, by making him hope extraordinary fuccess for the future. Plutarch, in relating this fact, to which he adds the examples of Cimon, Themistocles, and Demosthenes, who were reassured by counsels of a like nature, observes with reason, that it is doing the public great fervice, to encourage young persons in this manner, who have a fund of genius and fine talents; and to prevent their being difgusted in effect of some faults, they may commit in an age fubject to error, or of some bad successes, which they may at first experience in the exercise of their profession.

Euripides was not deceived in his views and expectation. Timotheus became the most excellent performer upon the Cithara of his times. He greatly improved this instrument, according to Pausanias, by adding four strings to it, or, as Suidas tells us, only two, the tenth and eleventh to the ninth, of which the Cithara was composed before him. Authors differ extremely upon this point, and often

even contradict themselves about it.

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This innovation in music had not the general approbation. The Lacedæmonians condemned it by a public decree, which Bæotius has preserved. It is wrote in the dialect of the county, in which the prevalent consonant for renders the pronunciation very rough; into the Timoseof & Midniolog magazyróunnog is tail functions, &c. and contains in substance: That Timotheus of Miletus having come to their city,

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had expressed little regard for the antient music and lyre; that he had multiplied the founds of the former, and the ftrings of the latter; that, to the antient, simple, and uniform manner of singing. he had substituted one more complex, wherein he had introduced the chromatic kind; that, in his poem upon the delivery of Semele, he had not obferved a fuitable decency: that to obviate the effects of fuch innovations, which could not but be attended with consequences pernicious to good manners, the kings and the Ephori had publicly reprimanded Timotheus, and had decreed, that his lyre should be reduced to feven strings as of old, and that all those of a modern invention should be retrenched, &c. This fact is related by Athenæus, with this circumstance, that when the executioner was upon the point of cutting away the new strings conformable to the decree, Timotheus having perceived in the same place a small statue of Apollo, with as many ftrings upon the lyre as there were upon his, he shewed it to the judges, and was dismissed acquitted.

His reputation drew after him a great number of disciples. It is said, that he took twice the sum of those, who came to learn to play upon the flute, (or the Cithara) if they had been taught before by another mafter. His reason was, that when an excellent mufician fucceeded fuch as were indifferent, he had double the pains with the scholar: that of making him forget what he had learnt before, the far greater difficulty; and to instruct him this innovation in mufic had not the cowens

The Lacedemonians condenned it by a public decientach La preferved.

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le is wrote in the 'dialoge of the county, in which Archilochus rendered himself equally famous for poely and music. I shall speak of him in the fequel under the title of a poet. In this place I confider him only as a musician; and of all that Plutarch

tarch says of him upon that head, I shall only repeat the passage, wherein he ascribes to him the musical execution of Iambic verses, of which some are only spoken whilst the instruments play, and others are

fung.

This passage, says Mr. Burette, shews us, that in lambic poetry there were verses merely declamatory, which were only repeated or fpoken; and that there were others which were fung. But what this fame paffage perhaps includes, that is not fo well known, is, that these declamatory lambics were accompanied with the found of the Cithara, and other instruments of the string kind. It remains to know in what manner this accompanying verses spoken was performed. According to all appearance, the player upon the Cithara did not only give the poet or actor the general tone of his utterance, and support him in it by the monotony of his playing; but, as the tone of the speaker or declaimer varied according to the different accents, which modified the pronunciation of each word, in order to make this kind of declamation the more distinct: it was necessary that the instrument of music should make all these modifications more sensible, and exactly mark the number or cadence of the poetry. which ferved it as a guide; and which, in effect of being fo accompanied, though not fung, became the more expressive and affecting. In regard to the poetry fung, the instrument that accompanied it, conformed its notes fervilely to it, and expressed no other founds, but those of the poet-musician's

ARISTOXENUS.

Aristoxenus was born at Tarentum, a city of Italy. He was the son of the musician Mnesias. He applied himself equally to music and philosophy. He was first the disciple of his father, then

of Xenophilus the Pythagorean, and lastly of Aristotle, under whom he had Theophrastus for the companion of his studies. Aristoxenus lived therefore in the time of Alexander the Great, and his first successors.

Of four hundred and fifty-two volumes which Suidas tells us he composed, only his three books of the Elements of Harmony now remain, which is the most antient treatise of music come down to us.

Heraclid.

He warmly attacked Pythagoras's fystem of mufic. That philosopher, with the view of establishing an unalterable certitude and constancy in the arts and fciences in general, and in music in particular, endeavoured to withdraw its precepts from the fallacious evidence and report of the fenfes, to fubiect them folely to the determinations of reason, Conformably to this defign, he was for having the harmonic powers or musical consonance, instead of being subjected to the judgment of the ear. which he looked upon as an arbitrary measure of little certainty, to be regulated folely by the proportions of numbers that are always the fame. Aristoxenes maintains, that to mathematical rules, and the ratio of proportions, it was necessary to add the judgment of the ear, to which it principally belonged, to determine in what concerned music. He attacked the system of Pythagoras in many other points.

Plutarch in his treatife upon music, is convinced, that sensation and reason ought to concur in the judgment past upon the different parts of music; so that the former do not prejudice the latter by too much vivacity, nor be wanting to it upon occasion, through too much weakness. Now the sense in the present question, that is, the hearing, necessarily receives three impressions at once: that of the sound, that of the time or measure, and that

of the letter; the progression of which conveys the modulation, the * rbyme, and the words. And as there can be no adequate perception of these three things separately, and each cannot be followedalone, it feems that only the foul or reason has a right to judge of what this progression or continuity of found, rhyme, and words, may have of good very often comprehend of it in the

SECT. III.

The antient music was simple, grave, and manly. When and how corrupted.

S amongst the antients, music, by its origin and natural destination, was consecrated to the fervice of the gods, and the regulation of the manners, they gave the preference to that, which was most distinguished by its gravity and simplicity. Each of these prevailed long, both in regard to vocal and inftrumental music. Olympius, Terpander, and their disciples, at first used few strings on the lyre, and little variety in finging. Notwithstanding which, says Plutarch, all simple, as the airs of those two musicians were, which were confined to three or four strings, they were the admiration of all good judges.

The Cithara, very simple at first under Terpander, retained this advantage some time. It was not permitted to compose airs for this instrument, nor to change manner of playing upon it, either as to the harmony, or the cadence; and great care was taken to preserve in the antient airs, their peculiar tone or character: hence they were called Nomes, as being intended for laws and models.

^{*} Rhyme, evous. The time or measure. It may also signify a bar in music.

The introduction of rhymes in the dithyrambie way; the multiplication of the founds of the flute, by Lasus, as well as of the strings of the lyre by Timotheus; and some other novelties introduced by Phrynis, Menalippides, and Philoxenus, occafioned a great revolution in the antient music. The comic poets, especially Pherecrates and Aristophanes. very often complained of it in the strongest terms. We fee, in their pieces, music represented accusing with great warmth and feverity those musicians of having entirely depraved and corrupted the art.

Plutarch, in feveral places of his works, complains also that to the manly, noble, and divine music of the antients, in which every thing was fublime and majestic, the moderns had substituted that of the theatre, which inspires nothing but vice De Super- and licentiousness. Sometimes he alledges Plato's thit. p. 167. authority to prove, that music, the mother of harmony, decency and delight, was not given to man by the gods only to please and tickle the ear, but

to reinstate order and harmony in the foul, too Symp. 1. 7. often discomposed by error and pleasure. Some-P. 704. times he admonishes us, that we cannot be too much upon our guard against the dangerous charms of a depraved and licentious music, and points out

the means of avoiding fuch a corruption. He depoët. p. 19. clares here, that wanton music, dissolute and debauched fongs, corrupt the manners; and that the musicians and poets ought to borrow from wife and virtuous persons the subjects of their compositions.

In another place he cites the authority of Pindar, who afferts that God made Cadmus hear a fublime and regular music, very different from those fost, light, effeminate strains, which had taken possession of human ears. And lastly, he explains himself more expressly upon it, in the ninth book of his

Sympofiacks. "The depraved music, which prevails in these days, says he, in injuring all the

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De Pyth. Orac.

P. 397.

P. 748.

"arts dependant upon it, has hurt none so much as dancing. For this, being associated with I know not what trivial and vulgar poetry, after having divorced itself from that of the antients, which was entirely divine, has usurped our theatres, where it triumphs amidst a ridiculous admiration, and exercising a kind of tyranny, has fubjected to itself a species of music of little or no valuer. But at the same time, it has actually lost the esteem of all those, who for their genius and wisdom, are considered as divine persons." I leave it to the reader to apply to our times, what Plutarch says of his, in regard to music and the theatres.

It is no wonder that Plutarch complains thus of the depravation which had universally infected the music of his times, and made it of so little value. Plato, Aristotle, and their disciples, had made the same complaint before him; and that in an age to favourable as theirs to the improvement of polite arts, and so productive of great men in every kind. How could it happen, that, at a time when eloquence, poefy, painting, and fculpture, were cultivated with fuch fuccess, music, for which they had no less attention, declined so much? Its great union with poetry was the principal cause of this, and these two fifters may be said to have had almost the same destiny. At first, each, confined to the exact imitation of what was most beautiful in nature, had no other view than to instruct whilst they delighted, and to excite emotions in the foul of equal utility, in the worship of the gods, and the good of fociety. For this end they employed the most fuitable expressions, tours of thought, numbers, and cadehoes. Music, particularly, always fimple, decent, and fublime, continued within the bounds prescribed her by the great masters, especially the philosophers and legislators, who were most of them poets and musicians. But the thea-VOL. I. trical

trical shews, and the worship of certain divinities, of Bacchus amongst the rest, in process of time, very much fet aside these wife regulations. They gave birth to dithyrambic poetry, the most licentious of all in its expression, measure, and sentiments. It required a music of the fame kind, and in confequence very remote from the noble fimplicity of the antient. The multiplicity of strings, and all that vicious redundance of found, and levity of ornament, were introduced to an excess, and gave room for the just complaints of all such as excelled, and had the best taste in this way.

Plucarch favs of his, in regard to molici and the le is no wonder that Flycarch complains thus of

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Different kinds and measures of the antient music. Manner of writing the notes to fongs.

Arifforde, and their disriples, had made the Ofpeak of the antient music in general, and to give a flight idea of it, it is proper to obferve, that there are three kinds of fymphonies; the vocal, the inftrumental, and that composed of both. The antients knew these three kinds of symphonics valed with fuch foccels, munc, for waterstrooms

We must farther remark, that music had at first only three measures; which were a tone higher than one another. The gravest of the three was called the Doric; the highest the Lydian; and the middle the Phrygian: forthat the Doric and Lydian included between them the space of two tones, or of a tercet or third major. By dividing this space into demi-tones, room was made for two other measures, the Ionic and Eolean; the first of which was inferred between the Doric and Phrygian; the second between the Phrygian and Lydian. Other measures were superadded, which took their denominations from the five first, prefixing the prepofition wire above, for those above and the prepofition below, for those below. The Hyperdoru, unical

the Hyperionic, &c. The Hypodoric, the Hypoionic,

In fome books of modern finging in churches, and at the end of fome breviaries, to these different measures are referred the different tones now used in chanting divine service. The first and second tone belong to the Doric measure; the third and fourth to the Phrygian; and the rest to the Lydian and Mixolydian.

The manner of chanting in the church is in the Diatonic kind, which is the deepest, and agrees

- best with divine worship of enthroses when

I return to the first division. The vocal symphony necessarily supposes several voices, because one person cannot sing several parts at the same time. When several persons sing in concert together, it is either in unison, which is called Homophony; or in the octave, and even the double octave; and this is termed Antiphony. It is believed that the antients used also a third manner, which consisted in singing to a tercet or third.

The instrumental sympletony, amongst the antients, had the same differences as the vocal; that is to say, several instruments might play together

in the unifon, the octave, and the third.

To have two strings of an instrument, of the same substance, equally thick, and equally strained, express these accords with each other, all that is necessary is to make their lengths by certain proportions of number. For instance, if the two strings be equal in length, they are unisons; if as 1 to 2, they are octaves; if as 2 to 3, they are sistens; as 3 to 4, they are fourths; and, 4 to 5, they are third majors, &c.

The antients, as well as we, had fome inftruments upon which a fingle performer could execute a kind of concert. Such were the double flute and

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The first of these instruments was composed of two slutes joined in such a manner, that the two

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pipes

pipes had usually but one mouth in common to These flutes were either equal or unequal, in length or in the diameter of the bore. The equal flutes had the fame, the unequal different, founds, of which one was deep, the other high. The fymphony, which the two equal flutes made, was in the unifon, when the two hands of the performer stopped the fame holes of each flute at the fame time; or thirds, when he stopped different holes of both flutes. The diversity of founds, refulting from the unequal flutes, could be only of two kinds, according to the flutes being either octaves or thirds; and in both cases the performer stopped the same holes of each flute at the same time, and in confequence formed a concert either in the octave or third.

By the type is meant here every mulical inftrument in general, with ftrings ftrained over a cavity for found. The antients had feveral instruments of this kind, which differed only in their form, their fize, or the number of their ftrings; and to which they gave different names, though they often used one for the other. The chief of them were 1. the Cithara, Kisaga, from which the word Guitar is de. rived, though applied to a quite different inftrument. 2. The Lyre, Auga, otherwise called xixus, and in Lavin Testudo, because the bottom resembled the scale of a tortoise, the figure of which animal (as it is faid) gave the first idea of this infrument. 3. The Terrors or triangular instrument, the only one that has come down to us under the name of the Harp. and the valor one your population

The lyre, as I have faid before, varied very much in the number of its ftrings. That of Olympius and Terpander had at first but three, which those musicians knew how to diversify with so much art, that, if we may believe Plutarch, they very much exceeded those who played upon lyres of a greater number. By adding a fourth string to and or theres former in facts a manner, that the two

Plut. de Muf. P. 1137.

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the other three, they made the * Tetracbord complete; and it was the different manner in which harmony was produced by these four strings, that constituted the three kinds of it, called the Diatonic, Chromatic, and Inharmonic. The Diatonic kind appertains to the common and ordinary music. In the Chromatic, the music was fostened by lowering the founds half a tone, which was directed by a coloured mark, from whence the Chromatic took its name xewea, fignifying colour. What is now called B flat belongs to the Chromatic music. In the Inharmonic music, on the contrary, the founds were raifed a demi-tone, which was marked, as at prefent, by a diesis. In the Diatonic music, the air or tune could not make its progressions by less intervals than the femi-tones major. The modulation of the Chromatic music made use of the semitones minor. In the Inbarmonic music, the progression of the air might be made by quarter-Lib. 2. in

Somn. Scipion.

Macrobius, speaking of these three kinds, says, c. 4. the Inharmonic is no longer in use upon account of its difficulty; that the Chromatic is no longer esteemed, because that fort of music is too foft and effeminate; and that the Diatonic holds the mean between them both.

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The addition of a fifth string produced the Pentachord. The lyre with seven strings, or the Heptachord, was more used, and in greater esteem than all others. However, though it included the feven notes of music, the octave was still wanting. Si-Plin.1.7. monides at length added it, according to Pliny, c. 56. with an eighth string. Long after him, Timo-Mus. p. theus the Milesian, who lived in the reign of Phi- 1141. lip king of Macedon, about the 108th olympiad,

^{*} A passage in Horace, differently explained by M. Dacier and father Sanadon, bas given learned differtations upon the instrument called the Tetrachord.

multiplied, as we have observed, the strings of the lyre to the number of eleven. This number was still increased.

The lyre, with three or four strings, was not susceptible of any symphony. Upon the Pentachord, two parts might be played by thirds to each other. The more the number of strings increased upon the lyre, the easier it was to compose airs with different parts upon that instrument. The question is to know, whether the antients improved that ad-

vantage.

elleinium

This question, which has been a matter of inquiry for about two ages, in regard to the antient music, and consists in knowing whether the Greeks and Romans were acquainted with that kind of it called Counterpoint, or concert in different parts, has occasioned different writings on both sides. The plan of my work dispenses with my entering into an examination of this difficulty, which I confess besides exceeds my capacity.

Martian. Capel. de nupt. Phi lol.

It is not unnecessary to know in what manner the antients noted their airs. With them, the general fystem of music was divided into eighteen sounds, of which each had its particular name. They invented characters to fignify each tone: onpeia, figns. All these figures were composed of a monogram, formed from the first letter of the particular name of each of the eighteen founds of the general fys-These signs, which served both for vocal and inftrumental music, were written above the words upon two lines, of which the upper was for the voice, and the lower for the instruments. These lines were not larger than lines of common writing. We have some Greek manuscripts, in which these two species of notes are written in the manner I have related. From them the * hymns

^{*} These hymns were written by a poet named Dionysius, little known in other re 1 cas.

to Calliope, Nemesis, and Apollo, as well as the strophe of one of Pindar's odes, were taken. Mr. Burette has given us all these fragments, with the antient and modern notes, in the fifth volume of the memoirs of the academy of Belles Lettres.

The characters, invented by the antients for writing mufical airs, were used till the eleventh century, when Guy d'Arezzo invented the modern manner of writing them with notes placed on different lines, so as to mark the sound by the position of the note. These notes were at first no more than points, in which there was nothing to express the time or duration. But John de Meurs, born at Paris, and who lived in the reign of king John, found out the means of giving these points an unequal value, by the different figures of crotchets, minims, semi-briefs, quavers, semiquavers, &c. which he invented, and have fince been adopted by all the musicians of Europe.

SECT. V.

Whether the modern should be preferred to the antient music.

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THE famous difference in regard to the antients and moderns is very warm upon this point; because, if the antient music was ignorant of the Counterpoint, or concert in different parts, that defect gives an indisputable right of preference to the modern. Admitting this to be real, which may with great reason always remain doubtful, I am not fure that the consequence is so certain. Might not the antients, in all other respects, have carried music to a degree of perfection the moderns have not attained, as well as all the other arts? (I do not fay it is fo, I speak only of its posfibility;) and, if fo, ought the discovery of the Counterpoint to give the latter an absolute preference I'W HISH DOTE S 4 CALL HATE ATTA STEE

to the former? The most excellent painters of antiquity, as Apelles, used only four colours in their pieces. This was so far from being a reason to Pliny for diminishing any thing of their merit and reputation, that he admired them the more for it, and that they had excelled all succeeding painters so much, though the latter had employed a great va-

ricty of new tints.

But, to trace this question to the bottom, let us examine, whether the music of later times does actually and indifputably excel that of the antients; and this it is impossible for us to decide. It is not with music as with sculpture. In the latter, the cause may be tried by the evidence of the performances to be produced on both fides. We have statues and reliefs of the antients, which we can compare with our own; and we have feen Michael Angelo pass sentence in this point, and actually acknowledge the superiority of the antients. No mufical work of theirs is come down to us, to make us sensible of its value, and to enable us to judge by our own experience, whether it be as excellent as our own. The wonderful effects, it is faid to have produced, do not feem proofs sufficiently decifive.

There are still extant treatises on Didactics, as well Greek as Latin, which may lead us to the theory of this art: but can we conclude any thing very certain from them in regard to the practice of it? This may give us some light, some opening; but precepts are exceedingly remote from execution. Would treatises upon poetry alone suffice to inform us, whether the modern ought to be preferred to the antient poets?

In the uncertainty there will always be with regard to the matter in question, there is a prejudice very much in favour of the antients, which ought, in my opinion, to make us suspend our judgment. It is allowed, that the Greeks had wonderful talents for all arts; that they cultivated them with extra-

ordinary

ordinary fuccess, and carried most of them to a furprising degree of perfection. In architecture, sculpture, and painting, no body disputes their supreme excellency. Now, of all these arts, there is not any fo antiently or generally cultivated as mufic. This was not done only by a few private persons, who made it their profession, as in the other arts; but by all in general who had any care taken of their education, of which the study of music was an effential part. It was of general use in solemn festivals, facrifices, and especially at meals, that were almost always attended with concerts, in which their principal joy and refinement confifted. There were public disputes and prizes for such as distinguished themselves most by it. It had a very peculiar thare in chorus's and tragedies. The magnificence and perfection, to which Athens role in every thing else that related to the public shews, is known: Can we imagine that city to have neglected only music? Can we believe, that those Attic * ears, so refined and exquisite in respect to the sound of words in common discourse, were less so in regard to the concerts of vocal and instrumental music, so much used in their chorus, and in which the most fensible and usual pleasure of Athens consisted? For my part, I cannot help being of opinion, that the Greeks, inclined as they were to diversions, and educated from their earliest youth in a taste for concerts, with all the aids I have mentioned, with that inventive and industrious genius they were known to have for all the arts, must have excelled in music as well as in all other arts. fole conclusion I make from all the reasons. I have advanced, without pretending to determine the preference in favour of either the antients or moderns.

I have not spoken of the perfection to which the Hebrew singers might have attained, in what re-

^{*} Atticorum aures teretes & religiose. Cic.

gards vocal and inftrumental mulic, to avoid mingling a species entirely facred and devoted to religion, with one wholly profane and abandoned to idolatry, and all the excesses consequential upon it. We may prefume that these fingers, to whom the holy Scripture feems to ascribe a kind of inspiration and the gift of * prophecy, not to compose prophetic pfalms, but to fing them in a lively and ardent manner, full of zeal and rapture, had carried the science of singing to as great a perfection as was possible. It was, no doubt, a grand, noble, and fublime kind of music, wherein every thing was proportioned to the majesty of its object, the Godhead, who, we may add, was its author: for he had vouchsafed to form his ministers and singers himself, and to instruct them in the manner it pleased him, to have his praises celebrated.

Nothing is so admirable as the order itself, which God had instituted amongst the Levites for the exercise of this august function. They were four thousand in number, divided into different bodies, of which each had its chief; and the kind, as well as times, stated for the discharge of their respective duties. Two + hundred sourscore and eight were appointed to teach the rest to sing and play upon instruments. We see an example of this wonderful order in David's distribution of the parts of the sacred music, when he solemnized the carrying of the ark from the house of Obed-Edom into the citadel of Sion. The whole troop of musicians were divided into three chorus's. The first had

^{*} And Chenaniah, chief of the Lewites, was for fong (or PRO-PHECY:) be instructed about the fong, because he was skilful, I Chron. xv. 22.

David and the captains of the host separated to the service of the sons of Asaph, and of Heman, and of Jeduthun, who should PROPHESY with barps, with psalteries, and with cymbals, and the number of workmen a cording to their service was: 1 Chron. xxv. 1.

With their brethren that were instructed in the songs of the Lord, even all that were cunning, two hundred fourscore and eight. Thron. xxv. 7.

hollow instruments of brass, that resounded exceedingly, unlike our kettle-drum, only in not being covered with skins, and having their hollow part laid over with double bars, which they struck on different parts of them. These sounds suited very well the sacerdotal trumpets that preceded them, and were very proper, by their lively, strong, and broken iterations, to awake the attention of the spectators. The second troop of sacred singers played in the treble, or higher, key, on a different instrument. The third chorus consisted of bases, that served to exalt and sustain these trebles, with which they always played in concert (perbaps in unisons) because directed by the same master of the singers.

It is easy to conceive, that the Levites, so numerous as they were, destined from father to son to this sole exercise, taught by the most skilful masters, and formed by long and continual habit, must have attained great excellency, and at length become consummate in all the beauties and delicacies of an art, in which they passed their whole lives.

This was the true intent of music. The most noble use, that men can make of it, is to employ it in rendering the continual homage of praise and adoration to the supreme majesty of God, who has created, and governs, the universe, and reserves so sacred an office for his faithful children. Hymnus omnibus sanctis ejus.

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hollow inflationate of brefs, they helpended tex-

end oldieb dela rosp but toot Of the parts of music peculiar to the antients.

T Shall treat in this fecond article on the other parts of music in use amongst the antients, but unknown amongst us; and shall confound them often together, because they have a natural connection. and it would be difficult to separate them without falling into tedious repetitions. I shall make great use of what is said upon these heads, in the critical reflections of the Abbé du Bos, upon poetry and painting. it is call to conceive, that the Levitore lo ma-

ed to which roos E.C.T. or paired approprie

Speaking upon the sage, or theatrical declamation com-Armende bes pofed and fet to notes. The sail flore.

-becomes miletimate in all the beauties and THE antients composed and wrote with notes the declamation or manner of speaking upon the stage, which, however, was not finging to music: and it is in this sense we should often understand in the Latin poets the words canere, cantus, and even carmen, which do not always fignify finging properly to called, but a certain manner of speaking or reading, abilds finding and act as he has a

According to Bryennius, this declaiming or speaking was composed with accents, and in consequence it was necessary, in writing it, to make use of the characters, which expressed those accents. At first they were only three, the acute, the grave, and the circumflex. They afterwards amounted to ten, each marked with a different character. We find their names and figures in the antient Grammarians. The accent is the certain rule by which the voice should be raised or depressed in the pro-

nunciation

founding these accents was learnt at the same time with reading, there was scarce any body who did not understand this kind of notes.

Besides the help of accents, the syllables in the Greek and Latin languages had a determinate quantity; that is to say, they were either long or short. The short syllable had only one, and the long two seconds of time. This proportion between long and short syllables was as absolute, as that in these days between notes of different length. As two black notes in our music ought to have as much time, as one white one in the music of the antients, two short syllables had neither more nor less than one long one. Hence, when the Greek or Roman musicians were to compose any thing whatsoever, they had no more to do, in setting the time to it, than to conform to the quantity of the syllables, upon which they placed each note.

I cannot avoid observing here by the way, that it is a pity the musicians amongst us, who compose hymns and motets, do not understand Latin, and are ignorant of the quantity of words; from whence it often happens, that upon short syllables, over which they ought to run lightly, they insist and dwell a great while, as if they were long ones. This is a considerable fault, and contrary to the most common rules of music.

I have observed, that the declamation, or manner of speaking, of the actors upon the stage, was composed and written in notes, which determined the tone it was proper to take. Amongst many passages that demonstrate this, I shall content mysfelf with chusing one from Cicero, where he speaks of Roscius, his cotemporary and intimate friend. Every body knows that Roscius became a person

I his

Longam esse duorum temporum, brevem unius, etiam pueri sciunt. Quintil. 1. 9. c. 4.

of very great confideration, by his fingular excellency in his art, and his reputation for probity. The people were so much prejudiced in his favour that, when he did not act so well as usual, they said It was either out of negligence or indisposition.

Noluit, inquiunt, agere Roscius, aut crudior fuit. In Cic. de Orat. 1. 1 fine, the highest degree of praise, that they gave n. 124: to a man, who excelled in his profession, was to

fay, he was a Rofcius in his way. The shoost Cicero, after having faid that an orator, when

tibias not saw vert were long the

he grows old, might foften his manner of speaking, quotes, as a proof and example of it, what Roscius declared, that, when he perceived himself grow old, he obliged the instruments to play in a flower time: Quanquam, quoniam multa ad oratoris 1. 1. n.2 54: similitudinem ab uno Artifice sumimus, solet idem Rofcius dicere, se, quo plus sibi etatis accederet, eo tibicinis cantus & modos remissiores esse facturum. Cicero accordingly, in a later work than that I have now cited, makes Atticus fay, that actor had abated his declamation, or manner of speaking, by obliging the player on the flute, that accompanied him, to keep a flower time with the founds of his in-Arument: Roscius, familiaris tuus, in senectute numeros & cantus remiserat, ipsasque ta liores secerat

Cic. de Leg. 1. 1. M. 11.

De Orat.

It is evident, that the finging (for it was often called fo) of the dramatic pieces on the stages of the antients had neither divisions, recitative, continued quaverings, nor any of the characters of our musical finging; in a word, that this singing was only declaiming or speaking as with us. This manner of utterance was, however, composed, as it was fustained by a continued base, of which the found was proportioned, in all appearance, to that made by a man who declaims or pronounces a fpeech.

This

Jam diu confecutus est ut in quo quisque artificio excelleret, is In suo genere Roscius diceretur. , De Orat. 1. 1. n. 130.

This may feem to us an abfurd and almost incredible practice, but is not therefore the less certain; and, in matter of fact, it is useless to object any arguments. We can only speak by conjecture upon the composition which the continued base might play, that accompanied the actor's pronunciation. Perhaps it only played from time to time fome long notes, which were heard at the passages. in which it was necessary for the actor to assume fuch tones as it was not easy to hit with justness; and thereby did the speaker the same service, as Gracchus received from the player upon the flute he always had near him, when he harangued, to give him at proper times the tones concerted between them ortho of perfons of conditionathy nesses

" perions of both fexes go thicher without bluthof to bwore a sire cerm med erent gar

mod loofe and abandoned mighteds." The au-Gesture of the stage composed and set to music.

on this head, and well deterves ferious accordions No USIC did not only regulate the tone of LV I voice in speaking, but also the gesture of the speaker. This art was called sexnors by the Greeks, and Saltatio by the Romans. Plato tells Plat. de us, that this art confifted in the imitation of all Leg. 1. 7. the gestures and motions men can make. Hence P. 814. we must not confine the sense of Saltatio to what our language means by the word dancing. art, as the same author observes, was of great extent. It was deligned not only to form the attitudes and motions which add grace to action, or are neceffary in certain artificial dances, attended with variety of steps, but to direct the gesture, as well of the actors upon the stage, as the orators; and even to teach that manner of gesticulation we shall foon treat on, which conveyed meaning without the help of speech. grant (2. Mone (Process or transferred and

Quintilian advices the fending of children, only for some time, to the schools where this art of Saltation was taught; but solely to acquire an easy air and graceful action; and not to form themselves upon the gesture of dancing-matters, to which that of prators should be extremely different. He observes, that this custom was very antient, and had sublisted to his times without any objection.

of a speech of the younger Scipio Africanus, wherein that destroyer of Carthage speaks warmly against this custom. "Our youth, says he for go to the schools of the comedians to learn fingling, an exercise, which our ancestors considered as unworthy of persons of condition. Young persons of both sexes go thither without blushing, where they mingle with a crowd of the most loose and abandoned minstrels." The authority of so wise a man as Scipio is of great weight on this head, and well deserves serious attention.

extraordinary pains to cultivate gesture, and both comedians and prators were very careful in this point. We have seen how industriously Demostationes applied himself to it. A Roscius sometimes disputed with Cicero, who best expressed the same thought in several different manners, each in his

Cujus etiam disciplina usus in nostram usque ætatem sine neprehensione descendit. A me autem autem non ultra pueriles anhos retinebitur, nec in his ipsis diu. Neque enim gestum oratoris componi ad similitudinem saltatoris volo, sed subesse aliquid ex hac

exercitatione. Quintil. 1.1. c. 11.

† Eunt in ludum histrionum, discunt cantare quod majores nostri Ingenuis probro duci voluerunt. Eunt, inquam, in ludum saltatorium inter Cinædos, virgiues puerique ingenui. Macrob. Saturnal. 1. 2. c. 8.

As comedians are spoken of here, by the word cantare we must understand to speak or declaim after the manner of the theatre.

[†] Et certe satis constat contendere eum (Ciceronem) cum histrione solitum, utrum ille sæpius eandem sententiam variis gestibus esticeret, an ipse per eloquentiæ copiam sermone diverso pronunciaret. Macrob. Saturn. 1. 2. c. 10.

own art; Roscius by gesture, and Cicero by speech. Roscius seems to have repeated that only by gesture, which Cicero sirst composed and uttered; after which judgment was given upon the success of both. Cicero afterwards changed the words or turn of phrase; without enervating the sense of the discourse; and Roscius, in his turn, was to give the sense by other gestures, without injuring his first mute expression by the change of manner.

SECT. III.

Pronunciation and gesture divided upon the stage between two actors.

E shall be less suprised at what I have said concerning Roscius, when we know, that the Romans often divided the theatrical Pronunciation between two actors, of whom the one pronounced, while the other made gestures. This again is one of the things not easily conceived, so remote is it from our practice, and so extravagant therefore does it appear.

Livy tells us the occasion for this custom. Livius Andronicus*, a celebrated poet, who first gave Rome a regular dramatic piece, in the five hundred and sourteenth year of that city, about an hundred and twenty years after shews of that kind had been introduced there, acted himself in one of his own pieces. It was usual at that time for the dramatic poets to mount the stage, and represent some character. The people, who took the liberty to cause

Is (Livius Andronicus) sui operis actor, cum sepius a populo rerocatus vocem obtudisser, adhibito pueri & tibicinis concentu, gesticulationem tacitus peregit. Tal. Max. 1. 2. c. 4.

Ver. 1. T

Livius—idem scilicet, quod omnes tunc erant suorum carminum, actor dicitur, cum sepius revocatus vocem obtudisset, venia petità puerum ad canendum ante tibicinem cum statuisset, canticum egisse aliquanto magis viginti motu quia nihil vocis usus impediebat. Inde ad manum cantari histrionibus cceptum, diverbiaque tantum ipsorum voce relicta. Liv. 1. 7. n. 2.

the passage they liked to be repeated, by calling out bis, that is to fay encore, made Andronicus repeat fo long, that he grew hoarfe. Not being capable of pronouncing any longer, he prevailed upon the audience to let a flave, placed behind the performer upon the instruments, repeat the verses, whilst Andronicus made the same gestures, as he had done in repeating them himself. It was observed, that his action was at that time much more animated than before, because his whole faculties and attention were employed in the gesticulation, whilst another had the care and trouble of pronouncing the words. From that time, continues Livy, arose the custom of dividing the parts between two actors; and to pronounce, in a manner, to the cadence of the comedian's gesture. And this custom has prevailed fo much, that the comedians themselves pronounce no longer any thing besides the dialogue part. Valerius Maximus relates the fame thing, which passages in many other authors confirm.

It is therefore certain, that the pronunciation and gesture were often divided between two actors; and that it was by established rules of music they regulated both the sound of their voices, and the mo-

tion of their hands and whole body.

We should be struck with the ridicule there would be in two perions upon our stage, of whom, one should make gestures without speaking, whilst the other repeated in a pathetic tone without motion. But we should remember, in the first place, that the theatres of the antients were much more wast than ours; and in the second place, that the actors played in masks, and that in consequence one could not distinguish sensibly, at a great distance, whether they spoke or were silent by the moving of the mouth, or the features of the face. They undoubtedly chose a singer (I mean him who pronounced) whose voice came as near as possible

to that of the comedian. This finger was placed in a kind of alcove, towards the bottom of the scene,

But in what manner could the rythmic music adapt itself to the same measure and cadence with the comedian that repeated, and him who made gestures? This was one of those things that, St. Augustin says, were known to all who mounted the stage, and for that reason he believed improper for him to explain: It is not easy to conceive what method the antients used to make both these players act in so perfect a concert, as scaree to be diffinguished from one: but the fact is certain. We know that the measure was beat upon the stage, which the actor who spoke, he who made gestures, the chorus, and even the instruments, were to obferve as their common rule. * Quintilian, after having faid, that gesture is as much subservient to measure, as utterance itself, adds, that the actors, who gesticulate, ought to follow the figns given with the foot, that is to fay, the time beat, with as much exactness, as those who execute the modulations; by which he means the actors who pronounce, and the instruments that accompany them. Near the actor who represented, a man was placed Lucian in with iron shoes, who stamped upon the stage. It Orchest. is natural to suppose, that this man's business was to bear the time with his foot, the found of which was to be heard by all who were to ob-

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The extreme delicacy of the Romans (and as much may be faid of the Greeks) in whatever conterned the theatre, and the enormous expences they were at in reprefentations of this kind, give us reafon to believe, that they carried all parts of them to a very great perfection; and in confequence that the distribution of single parts between two actors,

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^{*} Atqui corporis motui sua quædam tempora, & ad signa pedym non minus faltationi, quam modulationibus, adhibet ratio mufica humeros. Quintil.

of which one spoke, and the other made gestures, had nothing in it, that was not highly agreeable to

A comedian * at Rome, who made a gesture out of time, was no less hissed than one who was faulty. in the pronunciation of a verse. + The habit of being prefent at the public shews, had made even the common people so nice in their ear, that they knew how to object to inflexions, and the most minute faults in tone, when repeated too often; even though they were of a nature to please, when introduced sparingly, and managed with art.

The immense sums devoted by the antients to the celebration of shews are hardly credible. The representation of three of Sophocles's tragedies cost the Athenians more than the Peloponnesian war. What expences were the Romans at in building theatres and amphitheatres, and even in paying their actors? Æsopus, a celebrated actor of tragedy, Cicero's cotemporary, left at his death to the fon, mentioned by Horace and Pliny as a famous spendthrift, an inheritance t of two millions, five hundred thousand livres, (about an hundred and twenty thousand pounds) which he had amassed by acting. || Roscius, Cicero's friend, had a salary of above feventy-five thousand livres (about three thousand five hundred pounds) a year, and must have had more, as he had five hundred livres (about twenty-three pounds) a day out of the pub-

Hor. Sat. Plin. 1. 10. c. 51.

[·] Histrio si paululum se moveat extra numerum, aut si versus pronunciatus est syllaba una longior aut brevior, exsibilatur & exploditur. Cic. in Parad. 3.

^{. †} Quanto molliores sunt & delicatiores in cantu flexiones & false voculæ quam certæ & severæ: quibus tamen non modo austeri, sed, si sepius fiant, multitudo ipsa reclamat. Cic. de Orat. 1.3. n. 98.

I Riopum ex pari arte ducenties festertium reliquisse filio constat.

Macrob. l. 2. c. 10.

| Quippe cum jam apud majores nostros Roscius histrio sestertium quinquaginta millia annua meritasse prodatur. Plin. 1. 7. c. 39. Tanta fuit gratia, ut merced m diurnam de publico mille deharros fine gregalibus folus acceperit. Macrob. Saturn. 1. 2. c. 10.

lic treasury, of which he paid no part to his com- Macrob. pany. Julius Cæfar gave above fixty thousand 1.2.c.7. livres (about two thousand seven hundred and fifty pounds) to Laberius, to induce that poet to play a part in a piece of his own composing.

I have repeated these facts, and there are an infinity of a like nature, to shew the exceeding paffion of the Romans for public shews. Now is it probable, that a people who spared nothing for these shews, who made them their principal employment, or at least their most fensible pleasure; who piqued themselves upon the elevation and refinement of their tafte in every thing beside; that this people, I fay, whose delicacy could not suffer the least word ill pronounced, the least accent ill laid, or the least improper gesture, should admit this distribution of speech and gesture between two actors, fo long upon the stage, if it had offended ever so little the eye or ear? We may believe, without prejudice, that a theatre, fo much esteemed and frequented, had carried all things to a very high degree of perfection.

It was the music, that engrossed almost all honour in dramatic representations. It presided in the composition of plays: for of old its empire extended fo far, and was confounded with poefy. regulated the speech and gesture of the actors. was applied to form the voice, to unite it with the found of the instruments, and to compose a grateful harmony out of that union.

In antient Greece the poets themselves composed the pronunciation for their pieces. Musici, qui erant Cic. de quondam idem poeta, fays Cicero, in speaking of the Orat. 1. 3. antient Greek poets who invented the music and n. 174. form of verses. The art of composing declamation, or the pronunciation for dramatic performances, was a particular profession at Rome. the titles at the head of Terence's comedies, we find, with the name of the author of the poem, T 3

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and that of the master of the company of comedians who acted it, his name also that had adapted the music to the words; in Latin, Qui fecerat

modos.

Cicero uses the same expression, facere modos, to express those who composed the pronunciation of theatrical pieces. After having faid, that Roscius purposely repeated some passages of his parts with a more negligent tone than the fense of the verses feemed to require, and threw fhadowings into his gesture, to make what he intended to set off the ftronger, he adds: "That the fuccess of this con-" duct is so certain, that the poets, and those who " composed the pronunciation, were sensible of it " as well as the comedians, and knew all of them " how to employ it with advantage." These compofers of pronunciation raised or depressed the tone with delign, and artfully varied the manner of speaking. A passage was sometimes directed by the note, to be pronounced lower than the fense feemed to require, but then it was, because the elevation to which the actor's voice was to raife, at the distance of a verse or two, might have the stronger

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Art of the Paptomimes,

O conclude what relates to the music of the antients, it remains for me to speak of the most singular and wonderful of all its operations, though neither the most useful nor the most laudable; this was the performance of the Pantomimes.

^{*} Neque id actores priùs viderunt, quam ipfi poete, quam denique illi etiam qui fecerunt modos, a quibus utrifque submittitur aliquid, deinde augetur, extenuatur, inflatur, variatur, distinguitur. Cic. de Orat. 1. 3. n. 1, 2.

The antients, not contented with having reduced, by the precepts of music, the art of gesture into method, had improved it to fuch a degree, that there were comedians who ventured to undertake to act all forts of dramatic pieces, without speaking a fyllable. They called themselves Pantomimes, because they imitated and expressed whatever they had to fay by gestures, taught by the art of Saltation or dancing, without using the aid of speech.

Suidas and Zozymus inform us, that the art of Suidas. the Pantomimes made its first appearance at Rome, Zoz. 1. 1. in the reign of Augustus; which made Lucian say, Lucian de that Socrates had feen the art of dancing only in Orchest. its cradle. Zozymus even reckons the invention of P. 923. this art amongst the causes of the corruption of the manners of the Roman people, and of the misfortunes of the empire. The two first introducers of this new art were Pylades and Bathyllus, whose

names became afterwards very famous amongst the Romans; the first succeeded best in tragic subjects,

and the other in comic.

What appears furprifing is, that these comedians, who undertook to perform pieces without fpeaking, could not affift their expression with the motion of their faces; for they played in masks as well as the other actors. They began, no doubt, at first by executing some well known scenes of tragedies and comedies, in order to be the more eafily understood by the spectators, and by little and little became capable of representing whole plays.

As they were not to repeat any thing, and had only gestures to make, it is easily conceived, that all their expression was more lively, and their action much more animated, than those of the common comedians. Hence * Cassiodorus calls the Pan-

Orchestrarum loquacissimæ manus, linguosi digiti silentium clamosum, expositio tacita, quam musa Polhymnia reperiste narratur, ostendens homines posse sine oris afflatu velle suum declarare. Casfied. Var. Epift. 1. 4. Epift. 51.

tomimes, men whose learned hands, to use that expression, had tongues at the end of each finger; who spoke in keeping silence, and who knew how to make an ample narration without opening their mouths: in fine, men whom Polhymnia, the muse that presided over music, had formed, in order to shew that she could express her sense without the help of speech.

Orchett. p. 948. Ibid. 940.

These representations, though mute, must have given a fenfible pleasure, and transported the spectasenec in tors. Seneca the father, whose profession was one of the gravest and most honourable of his times, confesses, that his taste for these Pantomimical re-Lucian de presentations was a real passion. Lucian says, that people wept at them, as at the pieces of the speaking comedians. He relates also, that some king in the neighbourhood of the Euxine sea, who was at Rome in Nero's reign, demanded of that prince, with great earnestness, a Pantomime, he had seen play, in order to make him his interpreter in all languages. "This man, faid he, will make all the world understand him, whereas I am obliged to pay a great number of interpreters for correfoonding with my neighbours, who speak several languages entirely unknown to me."

Certain it is, that the Romans were so charmed with the art of the Pantomimes from its birth, that it foon passed into the remotest provinces, and subfifted as long as the empire itself. The history of the Roman emperors more frequently mentions famous Patomimes than celebrated orators.

This art, as we have observed, began in the reign of Augustus. That prince was exceedingly delighted with it, and Mæcenas was in a manner inchanted with Bathyllus. * In the first year of Tiberius, the fenate was obliged to make a regulation to prohibit the fenators from entering the houses

of

Ne domos Pantomimorum senator introiret, ne egredientes in publicum Equites Romani cingerent. Tacit, Annal. 1. 1. c, 77.

of the Pantomimes, and the Roman knights from making up their train in the streets. Some years Luciande after, there was a necessity for banishing the Pan-Orchest. tomimes out of Rome. The extreme passion of the people for their representations occasioned the forming cabals for applauding one in preference to another, and these cabals became factions. They Caffod. even took different liveries, in imitation of those Var. Epik. who drove the chariots in the races of the Circus. 20. Some called themselves the Blues, and others the The people were divided also on their fide, and all the factions of the Circus, fo frequenty mentioned in the Roman history, espoused different companies of Pantomimes, which often occasioned

dangerous tumults in Rome.

The Pantomimes were again expelled Rome under Nero and some other emperors. But their banishment was of no great duration; because the people could no longer be without them, and conjunctures happened, in which the fovereign, who believed the favour of the multitude necessary to him, endeavoured to please them by such means as were in his power. Domitian had expelled them, and Nerva his fuccessor recalled them, though one of the wifest emperors Rome ever had. Sometimes the people themselves, tired with the unhappy effects of the cabals of the Pantomimes, demanded their expulsion with as much warmth as they had done their being recalled upon other occasions. a te minore concentu ut tolleres Pantomimos, quam a patre tuo ut restitueret, exactum est, says Pliny the vounger, in speaking to Trajan. There are evils and diforders, which can only be prevented in their birth, and which, if time be allowed them to take root and gain credit, assume the upper hand, and become too strong for all remedies.

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OF THE ART MILITARY.

TITHERTO we have feen man establish ed by the means of the arts in the enjoyment of all the conveniencies of life. The earth, cultivated by his care and labour, has fupplied him, in return, with abundant riches of every kind. Commerce has brought him, from the most remote countries, whatever their inhabitants could spare: it has carried him down into the bowels of the earth, and to the bottom of the fea, not only to inrich and adorn him, but to supply himself with an infinity of helps and instruments necessary in his daily occasions. After having built himself houses, sculpture and painting have done their utmost in emulation of each other to adorn his abode; and, that nothing might be wanting to his fatisfaction and delight, music has come in, to fill up his moments of leifure with grateful concerts, which rest and refresh him after his labours, and make him forget all his pains, and all his afflictions, if

he has any. What more can he defire? Happy, if he could not be diffurbed in the poffession of advantages, that have cost him so much. But the rapacious appetites, the avarice and ambition of mankind, interrupt this general felicity, and render man the enemy of man. Injustice arms herself with force, to inrich herself with the spoils of her brethren. He, who, moderate in his defires, confines himfelf within the bounds of what he possesses, and should not oppose force with force, would foon become the prey of others. He would have cause to fear, that jealous neighbours, and enemy states, would come to diffurb his tranquillity, to ravage his lands, burn his houses, carry away his riches, and lead himself into captivity. He has therefore cccasion for arms and troops, to defend him against violence, and ascertain his safety. At first we behold him employed in whatever the sciences have of most exalted and sublime: but, * at the first noise of arms, those sciences, born and nurtured in repose, and enemies of tumult, are seized with terror, reduced to filence, unless the art of war takes them under her protection, and places her fafeguards over them, which can alone fecure the public tranquillity. + Thus war becomes necessary to man, as the protectress of peace and repose, and solely employed to repel violence and defend justice; and it is in this light I believe it allowable for me to treat of it. I shall run over, as briefly as possible, all the parts of military knowledge, which, properly fpeaking, is the science of princes and kings, and requires, for fucceeding in it, almost innumerable talents, which are very rarely to be found united in the same person, and rigin paidson take have

+ Suscipienda bella sient ob eam causam ut sine injuria in pace vivatur. Cic. 1. 1. de Offic. n. 35.

has come in Omnia hac nostra preclara studia -- latent in tutela ac presi-dio bellica virtutis. Simul atque increpuit suspicio tumultus, artes illico nostræ conticescunt. Cic. pro Mur. n. 21.

OF THE ART MILITARY.

As I have elsewhere treated on what relates to the military affairs of the Egyptians, Carthaginians, Affyrians, and Perfians, I shall speak the more sparingly of them in this place. I shall be more extensive upon the Greeks, and principally the Lacedæmonians and Athenians, which, of all the Grecian states, indisputably distinguished themselves most by their valour and military knowledge. I was long in doubt whether I should speak also of the Romans, who feem foreign to my subject. But, upon mature confideration, I thought it necessary to join them with other nations, that the reader, at one view, might know, at least in some measure, the manner in which the antients made war. This is the fole end I propose to myself in this little treatife, without intending any thing further. I have not forgot what happened to a philosopher of Ephefus, who passed for the finest speaker of his times. In an harangue, which he pronounced before Hannibal, he took upon him to treat at large on the duties of a good general. The orator was applauded by the whole audience. Hannibal, being pressed to give his opinion of him, replied, with the freedom of a foldier, that he had never heard a more contemptible discourse. I should apprehend incurring a like centure, if, after having passed my whole life in the study of polite learning, I should pretend to give lessons upon the art military to those who make it their profession and a spiradon

Great, so well known in history, was exceedingly just and sensible. And had not the Scythians good reason to ask that tayage of provinces; where-fore he came so tar to disturb the tranquillity of nations, who had never done him wrong, and whether

^{*} Inferre bella finitinis at popular libi non moledes fold regui enpiditate contenere & fubdere, quid aliud quam grande brocunium boninandum mit? S. Aug. de Geo. D. b. 4. c. 6.

† Quid nobic recon ed ? Manquam estram mam strigimus. 'Qui A. A. H. Sais, licetus ignorare in suchs livis visantilus? & A. A. H. Sais, licetus ignorare in suchs livis visantilus? &

CHAPTERL

THIS first chapter contains what relates to the undertaking and declaring of war, the choice of the general and officers, the raising of troops, their provisions, pay, arms, march, incampment, and all that relates to battles.

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Undertaking and declaration of war.

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Indertaking of war: once Loos 100

THERE is no principle more generally received, than that which lays down, that war ought never to be undertaken except for just and lawful reasons; nor hardly any one more generally violated. It is agreed, that wars, undertaken solely from views of interest or ambition, are real robberies. The pirate's answer to Alexander the Great, so well known in history, was exceedingly just and sensible. And had not the Scythians good reason to ask that ravager of provinces; wherefore he came so far to disturb the tranquillity of nations, who had never done him wrong; and whether

• Inferre bella finitimis at populos sibi non molestos sola regni tupiditate conterere & subdere, quid aliud quam grande lirocinium adminandum est? S. Aug. de Civ. D. l. 4. c. 6.

† Quid nobis tecum est? Nunquam terram tuam attigimus. Qui

† Quid nobis tecum est? Nunquam terram tuam attigimus. Qui fis, unde venias, licetne ignorare in vastis sylvis viventibus? 2. Curer le

it was a crime in them to be ignorant in their woods and defarts, remote from the rest of mankind, who and of what country Alexander was? When Philip, Justin. 1. 2. chosen arbiter between two kings of Thrace that c. 3. were brothers, expelled them both from their dominions, did he deserve a better name than that of thief and robber? His other conquests, though less stagrant crimes, were still but robberies, because founded upon injustice, and no means of conquering seemed infamous to him: Nulla apud id. Justina eum turpis ratio vincendi. The justice and necessity of wars ought therefore to be considered as fundamental principles in point of policy and government.

In monarchical states, generally, the prince only has power to undertake a war: which is one of the reasons that renders his office so much to be feared. For, if he has the missortune to enter into it without a just and necessary cause, he is answerable for all the crimes committed in it, for all the fatal effects attending it, for all the ravages inseparable from it, and and all the human blood shed in it. Who can look without trembling upon such an object, and an account of so dreadful a nature?

Princes have councils, which may be of great affiltance to them, if they take care to fill them up with wife, able, and experienced persons; such as are distinguished by their love and zeal for the good of their country, void of ambition views of interest, and above all infinitely remote from all disguise and flattery. When Darius proposed to his Herod. 1. council the carrying of the war into Scythia, Arta-c. 834 banus his brother endeavoured at first in vain to dissuade him from so unjust and unreasonable a design: his reasons, solid as they were, were forced to give way to the enormous praises and excessive flattery

^{*} Philippus, more ingenii sui, ad judicium veluti ad bellum, inopinantibus fratribus, instructo exercitu supervenit; & regno utrumque, non judicis more, sed fraude LATRONIS ac scelere, spoliavit.

definitet.

Herod.1.7. of the courtiers. He succeeded no better in the counsel he gave his nephew Xerxes, not to attack the Greeks. As the latter had strongly expressed his own inclination, an effential fault in such conjunctures, he was far from being opposed, and the deliberation was no more than mere form. On both occasions, the wife prince, who had spoken his sentiments freely, was grieved to see, that neither of the two kings comprehended, * bow great a misfortune it is to be accustomed to set no bounds to one's defires, never to be contented with what we posses, and always to be sollicitous for enlarging it:

which is the cause of almost all wars.

In the Grecian republics, the affembly of the people decided finally with regard to war, which method was subject to great inconveniencies. Sparta indeed, the authority of the fenate, and efpecially of the Ephori, as well as at Athens that of the Areopagus and council of four hundred, to whom the preparing of the public affairs belonged, ferved as a kind of balance to the levity and imprudence of the people: but this remedy had not always its effect. The Athenians are reproached with two very opposite faults, the being either too precipitate or too flow. Against the former a law had been made, by which it was ordained, that war should not be resolved till after a mature deliberation of three days. And in the wars against Philip we have feen, how much Demosthenes complained of the indolence of the Athenians, of which their enemy well knew how to make his advantage. This flowness, in republics, arifes from this cause; unless the danger be evident, private persons are too much divided about their different views and interests, to unite speedily in the same resolution. Thus, when Philip had taken Elatæa, the Athenian orator, terrified with the urgent danger of the re-

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public, caused the law I have mentioned to be repealed, and the war to be resolved on that instant.

The public affairs were examined and determined with much more maturity and wisdom amongst the Romans, though the people with them also had the decision. But the senate's authority was great, and almost always prevailed in important cases. wife body were very attentive, especially in the earliest times of the republic, to have justice on their fide in their wars. This reputation, for faith in treaties, equity, justice, moderation, and difinterestedness, was of no less service than the force of arms, in aggrandizing the Roman republic; the power of which was attributed * to the protection of the gods, who rewards justice and public faith in that manner. It is observed + with admiration, that the Romans, in all times, constantly made religion the basis of their enterprises, and referred the motive and end of them to the gods.

The most powerful reason the generals could use to animate the troops to fight well, was to represent to them, that the war they made was just; and that, as only necessity had put their arms into their hands, they might assuredly rely upon the protection of the gods: whereas those gods, the enemies and avengers of injustice, never failed to declare against such as undertook unjust wars, in violation

of the faith of treaties.

^{*} Favere pietati fideique deos, per quæ populus Romanus ad tantum fastigii pervenerit. Liv. l. 44. n. 1.

[†] Majores vestri omnium magnarum rerum & principia exorsi ab

SECT. II.

Declaration of war.

NE effect of the principles of equity and justice, which I have now laid down, was never actually to commence hostilities, before the public heralds had fignified to the enemy the grievances they had to alledge against them, and they had been exhorted to redrefs the wrongs declared to have been received. It is agreeable to the law of nature to try methods of amity and accommodation, before proceeding to open rupture. War is the last of remedies, and all others should be endeavoured before that is undertaken. Humanity requires, that room be given for reflection and repentance, and time left to clear up fuch doubts, and remove fuch fuspicions, as measures of an ambiguous nature may give birth to, and which are often found to be groundless upon a nearer examination.

This custom was generally observed from the earliest ages amongst the Greeks. * Polynices, before he belieged Thebes, fent Tydeus to his brother Eteocles to propose an accommodation. And it fliad. 1. 2. appears from Homer, that the Greeks deputed Ulysses and Menelaus to the Trojans, to summion them to restore Helen, before they had committed any act of hostility; and Herodotus tells us the fame thing. We find a multitude of the like exc. 112,&c. amples throughout the hittory of the Greeks.

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1. 205.

It is true, that an almost certain means of gaining great advantages over enemies is to fall on them at unawares, and to attack them fuddenly, without

Potior cunctis sedit sententia, fratris Prætentare fidem, tutosque in regna precando Explorare aditus. Audax ea munera Tydeus Sponte Subit Stat. Theb. lib. TT. having

having fuffered them to discover our designs, or giving them time to put themselves into a state of But these unforeseen incursions, without any previous denunciation, were properly deemed unjust enterprises, and vicious in their principle. It was this, as Polybius remarks, that had fo much Polyb.1.4. discredited the Ætolians, and had rendered them as P. 331. odious as thieves and robbers; because having no rule but their interest, they knew no laws either of war or peace, and every means of inriching and aggrandizing themselves appeared legitimate to them, without troubling themselves, whether it were contrary to the law of nations to attack neighbours by furprise, who had done them no wrong, and who believed themselves safe in virtue, and under the

protection of treaties.

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The Romans were more exact than the Greeks in Liv. 1. 1. observing this ceremony of declaring war, which n. 32. was established by Ancus Martius, the fourth of their kings. The public officer (called Fecialis) having his head covered with linen, went to the frontiers of the people against whom preparations of war were making; and as foon as he arrived there, he declared aloud the grievances of the Roman people, and the fatisfaction he demanded for the wrongs which had been done them; calling Jupiter to witness in these terms, which include an horrible imprecation against himself, and a still greater against the people, of whom he was no more than the voice: Great God, if I come bither to demand fatisfaction in the name of the Roman people, contrary to equity and justice, never suffer me to behold my native country again. He repeated the fame thing, changing only some of the terms, to the first perion he met; and afterwards at the entrance of the city, and in the public market-place. If at the expiration of thirty days satisfaction were not made, the same officer returned to the same people, and pronounced publicly these words: Attend, ob Jupiter, U 2 Tuno.

OF THE ART MILITARY.

Juno, and * Quirinus; and you celeftial, terrestrial, and infernal gods, attend. I call you to witness, that such a people (naming them) are unjust, and resuses to make us satisfaction. We shall consult at Rome, in the senate, upon the means of obliging them to do us that justice which is our due. Upon the return of the Fecialis to Rome, the affair was brought into deliberation, and, if the majority of voices were for the war, the same officer went back to the frontier of the same people, and in the presence of at least three persons, pronounced a certain form of declaration of war; after which he threw a spear upon the enemy's lands, which implied that the war was declared.

This ceremony was long retained by the Romans. When war was to be declared against Philip and Antiochus, they consulted the Feciales, to know, whether it was to be denounced to themselves in person, or it sufficed to declare it in the first place subject to those princes. In the glorious times of the + republic, they would have thought it a disgrace to them to have acted by stealth, and to have committed breach of faith, or even used artisce. They proceeded openly, and left those little frauds and unworthy stratagems to the Carthaginians, and people like them, with whom it was more glorious to deceive, than conquer an enemy with open force.

The heralds at arms, and Feciales, were in great veneration amongst the antients, and were considered as sacred and inviolable persons. This declaration was a part of the law of nations, and was held necessary and indispensable. It was not preceded by certain public writings, now called h

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^{*} So Remulus was called.

[†] Veteres & moris antiqui memores negabant se in ea legatione Romanas artes agnoscere. Non per insidias & nocturna præliamec ut magistratu quam vera virtute gloriarentur, bella majores gessisse. Inducere priusquam gerere solitos bella, denunciare etiam mac Romana esse, non versutiarum Punicarum, neque calliditatis Gracce: apud quos fallere hostem, quam vi superare, gloriosius suerit. Liv. 1-42. n. 47.

Manifestos,

Manifestoes, which contain the pretentions, well or ill founded, of the one or the other party, and the reasons by which they support them. have been substituted in the room of that august and folemn ceremony, by which the antients introduced the divine Majesty in delarations of war, as witness and avenger of the injustice of those who undertook wars without reason and necessity. Motives of policy have besides rendered these manifestoes necessary, in the situation of the princes of Europe with regard to each other, united by blood, alliances and leagues offensive or defensive. Prudence requires the prince, who declares war against his enemy, to avoid drawing upon him the arms of all the allies of the power he attacks. It is to prevent this inconvenience manifeltoes are made in these days, which supply the place of the antient ceremonies I have mentioned, and which fometimes contain the reasons for beginning the war, without declaring it.

I have spoken of pretensions well or ill founded. For states and princes, who war upon each other, do not fail to justify their proceedings with specious pretexts on both fides; and they might express themselves, as a prætor of the Latins did in an Liv. 1. 8. affembly, wherein it was deliberated how to answer n. 4. the Romans, who, upon the fuspicion of a revolt, had cited the magistrates of Latium before them. " In my opinion, gentlemen, fays he, in the pre-" fent conjuncture, we ought to be less concerned " about what we have to fay, than what we have " to do: for, when we have acted with vigour, and "duly concerted our measures, there will be no " difficulty in adapting words to them." Ad summam rerum nostrarum magis pertinere arbitror, quid agendum nobis, quam quid loquendum sit. Facile erit, explicatis confiliis, accommodare rebus verba.

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ARTICLE II.

Choice of the generals and officers. Raifing of troops,

SECT. I.

Chaice of the generals and officers.

T is a great advantage for kings to be absolute masters in the choice of the generals and officers of their armies; and the highest praise, which can be given them, is to fay, that known reputation and folid merit are the fole motives that determine And indeed can they have too much them in it. attention in making a choice, which in some meafure equals a private person with his sovereign, by invefting him with the whole power, glory, and fortune of his dominions? It is principally by this characteristic princes capable of governing are known; and it is to the same they have been always indebted for the fuccess of their arms. We do not find, that the great Cyrus, Philip, or his fon Alexander, ever confided their troops to generals without merit and experience. The case was not the fame under the fuccesfors of Cyrus and Alexander, with whom intrigue, cabal, and the credit of a favourite usually presided in this choice, and almost always excluded the best subjects. Hence the fuccess of their wars was answerable to such a manner of commencing them. I have no occasion to cite examples to prove this: history abounds with them.

Her. 1. 5.

I proceed to republics. At Sparta the two kings, in virtue of their rank only, had the right and polesion of the command, and in the earlier times marched together at the head of the army: but a division,

division, that happened between Cleomenes and Demaratus, occasioned the making of a law, which ordained, that only one of the kings should command the troops; and this was afterwards observed, except in extraordinary cases. The Lacedæmonians were not ignorant, that authority is weak when divided; that two generals seldom agree long; that great enterprises can hardly succeed, unless under the conduct of a single man; and that nothing is more fatal to an army, than a divided command.

This inconvenience must have been much greater at Athens, where, by the constitution of the state itself, ten persons were always to command; because, Athens being composed of ten tribes, each furnished their own chief, who commanded their day successively. Besides which, they were chosen by the people, and that every year. This occasioned a smart saying of Philip's, that he admired the good fortune of the Athenians, who could find in a set time, every year, ten captains; whereas, during his whole reign, it had scarce been in his power to find * one.

The Athenians, however, especially at critical conjunctures, must have been attentive in appointing citizens of real merit for their generals. From Miltiades to Demetrius Phaleræus, that is to say, during almost two hundred years, a considerable number of great men were placed by Athens at the head of her armies, who raised their country's glory to the most exalted height. In those times all jealousy was banished, and the public good the the sole motive of power. There is a fine example Herod. of this in the war of Darius against the Greeks. C. 10 The danger was exceeding great. The Athenians were alone against an innumerable army. Of the

· This was Parmenio.

ten generals, five were for fighting, and five for retreating. Miltiades, who was at the head of the former, having gained the Polemarch on his fide, (which officer had a decifive voice in the council of war in case of division) it was resolved to fight. All the generals, acknowledging the superiority of Miltiades to themselves, when the day came, resigned the command to him. It was at this time the celebrated battle of Marathon was fought.

It sometimes happened that the people, suffering themselves to be swayed by their orators, and sollowing their caprice in every thing, conserred the command upon persons unworthy of it. We may remember the absolute credit of the samous Cleon with the multitude, who was appointed to command in the first years of the Peloponnesian war, though a turbulent, hot-headed, violent man, without ability or merit. But these examples were rare, and not frequently repeated at Athens till the later times, when they proved one of the principal causes of its ruin.

Diog. Laert. in Antith. p. 369. The philosopher Antisthenes made the Athenians sensible, one day, in a pleasant and facetious manner, of the abuses committed amongst them in the promotions to the public offices. He proposed to them, with a serious air, in a full assembly, that it should be ordained by a decree, that for the future the assess should be employed in tillage as well as the horses and oxen. When he was answered, that the assess were not intended by nature for that labour: You are deceived, said he, that signifies nothing: Don't you see that our citizens, though ever so much assess and sots before, become immediately able generals, solely from your election of them.

At Rome, the people also elected the generals, that is to say, the consuls. They held their office only one year. They were sometimes continued in the command under the names of proconsuls or

pro-

proprætors. This * annual change of the generals was a great obstacle to the advancement of affairs, the fuccefs of which required an uninterrupted continuation. And this is the advantage of monarchical states, in which the princes are absolutely free, and dispose all things at discretion, without being subject to any necessity. Whereas, amongst the Romans, a conful fometimes arrived too late, or was recalled before the time for holding the affemblies. Whatever diligence he might use in his journey, before the command could be transferred to a fucceffor, and he was fufficiently informed of the condition of the army, a knowledge indispenfably previous to all undertakings, a confiderable space of time must have elapsed, which made him lose the occasion of acting, and of attacking the enemy to advantage. Besides which, he often found affairs, upon his arrival, in a bad condition, through his predecessor's ill conduct, and an army composed in part of new-raised and unexperienced troops, or corrupted by licence or want of discipline. Fabius + intimated part of these reflections to the Roman people, when he exhorted them tochuse a consul capable of opposing Hannibal.

* Interrumpi tenorem rerum, in quibus peragendis continuatio ipfa efficacissima esset, minimè convenire. Inter traditionem imperii, novitatemque successoris, que noscendis prius quam agendis rebus imbuenda sit, sepe bene gerende rei occasiones intercidere. Liv. 1. 41. n. 15.

Post tempus (consules) ad bella ierunt: ante tempus comitiorum causa revocati sunt: in ipso conatu rerum circumegit se annus—Male gestis rebus alterius successum est: tironem aut mala disciplina institutum exercitum acceperunt. At hercule Reges, non liberi solum impedimentis omnibus, sed domini rerum temporumque, trahunt consiliis cuncta, non sequuntur. Liv. 1. 9. n. 18.

† Cuin, qui est summus in civitate dux, cum legerimus, tamen repente lectus, in annum creatus adversus veterem ac perpetuum imperatorem comparabitur, nullis neque temporis neque juris inclusum angustiis, quo minus ita omnia gerat administretque ut tempora postulabunt belli: nobis autem in apparatu ipso, ac tantum inchoantibus res, annus circumagitur. Liv. 1, 24. n. 8.

The short term of one year, and the uncertainty of the command's being further prolonged, did indeed induce the generals to make the best use of their time: but it was often a reason for their putting a speedier end to their enterprises, than they would otherwise have done, and upon less advantageous conditions, from the apprehension that a fuccesfor might reap the fruit of their labours, and deprive them of the honour of having terminated the war gloriously. A true zeal for the public good, and a perfectly difinterested greatness of foul, would have disdained such considerations. I am afraid there are very few examples of this kind. The great * Scipio himself. I mean the first, is reproached with this weakness, and with not having been insensible to this fear. A virtue of so pure and exalted a nature, as to neglect fo sensible and so affecting an interest, seems above humanity: at least it is very uncommon.

The authority of the confuls confined, in point of time, within such narrow bounds, was, it must be confessed, a great inconvenience. But the danger of infringing the public liberty, by continuing the same man longer in the command of all the forces of the state, obliged them to overlook this inconvenience, from the apprehension of incurring

a much greater.

The necessity of affairs, the distance of places, and other reasons, at length reduced the Romans to continue their generals in the command of their armies for many years. But the inconvenience really ensued from it, which they had apprehended; for the generals, by that duration of their power, became their country's tyrants. Amongst other examples I might cite Sylla, Marius, Pompey, and Cæsar.

^{*} Ipsum Scipionem expectatio successoris, venturi ad paratam alterius labore ac periculo finiti belli famam, sollicitabat. Liv. 1. 30. n. 36.

The choice of the generals usually turned upon their personal merit; and the citizens of Rome had at the same time a great advantage, and a powerful motive for acting in that manner. What facilitated this choice was the perfect knowledge they had of those who aspired at command, with whom they had ferved many campaigns, whom they had feen in action, and whose genius, talents, successes, and capacity for the highest employments, they had time to examine and compare by themselves, and with their comrades. This * knowledge, which the Roman citizens had of those who demanded the confulfhip, generally determined their fuffrages in favour of the officers, whose ability, valour, generosity, and humanity, they had experienced in former campaigns: "He took care of me, faid they " when I was wounded; he gave me part of the " fpoils; under his conduct we made ourselves " masters of the enemy's camp, and gained such se a victory; he always shared in the pains and fatigue with the foldier; it is hard to fay, whether " he is most fortunate or most valiant." Of what weight was fuch discourse!

The motive, which induced the Roman citizens to weigh and examine carefully the merit of the competitors, was the personal interest of the electors, the major part of whom, being to serve under them, were very attentive not to confide their lives, honour, and the safety of their country, to generals they did not esteem, and from whom they did not expect good success. It was the soldiers

them-

^{*} Num tibi hæc parva adjumenta & subsidia consulatus? voluntas militum? quæ cum per se valet multitudine, tum apud suos gratia : tum verò in consule declarando multum etiam apud populum Romanum auctoritatis habet suffragatio militaris—Gravis est illa oratio: Me saucium recreavit; me præda donavit; hoc duce castra cepimus, signa contulimus; nunquam iste plus militi laboris imposuit, quam sibi sumpsit; ipse cum fortis, tum etiam sælix. Hoc quanti putas esse ad samam hominum ac voluntatem? Cic. pra. Muræn. n. 38.

themselves, who in the comitia made choice of these generals. We see they knew them well, and find by experience, that they were seldom mistaken. We observe even in our times, that when they go upon parties to plunder (marauding) they always chuse, without partiality or favour, those amongst them that are most capable of commanding them. It was in this spirit Marius was chosen, against the will of his general Metellus; and Scipio Æmilianus preferred, through a like prejudice of the soldiers in his savour.

It must be owned, however, that the nomination of commanders was not always directed by public and superior views; and that cabal, and address to infinuate into the people's opinion, to flatter, and footh their passions, had sometimes a great share in it. This was feen at Rome, in regard to Terentius Varro; and at Athens, in the instance of Cleon, The multitude is always the multitude, that is to fay, fickle, inconstant, capricious, and violent: but the people of Rome were less so than any. They gave, upon many occasions, examples of a moderation and wisdom, not to be sufficiently admired; fubmitting themselves, in the most laudable manner, to the opinion of the fenate; forgetting nobly their prejudices, and even refentment, in favour of the public good, and voluntarily renouncing the choice they had made of persons incapable of suftaining the weight of affairs, as it happened, when the confulship was continued to Fabius, after the remonstrance himself had made upon the incapacity of those who had been elected: an odious proceeding in every other conjuncture, * but which, at

Liv. l. 10. n. 22. & 34. Id. l. 26.

that

^{*} Tempus, ac necessitas belli ac discrimen summæ rerum saciebant ne quis aut in exemplum exquireret, aut suspectum cupiditatis imperii consulem haberet. Quin laudabant potius magnitudinem animi, quod, cum summo imperatore esse opus reip. sciret, seque eum haud dubiè esse; minoris invidiam, si qua ex re oriretur, quam utilitatem reip. secisset. Liv. 1. 24. n. 9.

that time, did Fabius great honour, because the effect of his zeal for the republic, to the safety of which he was not afraid, in some measure, to sacrifice his own reputation.

The armies of the Roman people confifted generally of four legions, of which each conful commanded two. They were called the first, second, third, and so on, according to the order in which they had been raised. Besides the two legions commanded by each conful, there was the same number of infantry, supplied by the allies. After all the people of Italy were associated into the freedom of the city, that disposition underwent many alterations. The four legions under the consuls were not the whole force of Rome. There were other bodies of troops, commanded by prætors, proconsuls, &c.

When the confuls were in the field together, their authority being equal, they commanded alternately, and had each their day, as it happened at the battle of Cannæ. One of them often, knowing his collegue's fuperior ability, voluntarily refigned his rights to him. Agrippa Furius * acted in this manner, in regard to the famous T. Quintius Capitolinus, who, in gratitude to his collegue's generofity and noble behaviour, communicated all his defigns to him, shared with him the honour of all the successes, and made him his equal in every thing. On another occasion †, the military tri-

^{*} In exercitu Romano cum duo consules essent potestate pari; quod saluberrimum in administratione magnarum rerum est, summa imperii, concedente Agrippa, penes collegam erit: & prælatus ille facilitati summittentis se comiter respondebat, communicando consilia laudesque, & æquando imparem sibi. Liv. 1. 3. n. 70.

[†] Collegæ fateri regimen omnium rerum, ubi quid bellici terroris ingruat, in viro uno esse: sibique destinatum in animo esse Camillo summittere imperium; nec quicquam de majestate sua detractum credere, quod majestati ejus viri concessisset — Erecti gaudio
fremunt, nec dictatore unquam opus fore reip. si tales viros in magistratu habeat, tam concordibus junctos animos, parere atque imperare juxtà paratos, laudemque conferentes potius in medium,
quam ex communi ad se trahentes. Liv. 1. 6. n. 6.

bunes, who had been substituted to the consuls; and were at that time fix in number, declared, that, in the present critical conjuncture, only one of them was worthy of the command, this was the great Camillus; and that they were resolved to repose their whole authority in his hands; convinced, that the justice they rendered his merit could not but reflect the greatest glory upon themselves. So generous a conduct was attended with univerfal applause. Every body cried out, that they should never have occasion to have recourse to the unlimited power of dictators, if the republic always had fuch magistrates, so perfectly united amongst themselves, so equally ready either to obey or command; and who, fo far from defiring to engross all glory to themselves, were contented to share it in common with each other.

It was a great advantage to an army to have fuch a general, as Livy describes in the person of Cato, who was capable of descending to the least particular *; who was alike attentive to little and great things; who foresaw at a distance, and prepared every thing necessary to an army; who did not content himself with giving orders, but took care to see them executed in person; who was the first in setting the whole army the example of an exact and severe discipline; who disputed sobriety; watching, and fatigue, with the meanest soldier; and, in a word, who was distinguished by nothing in the army, but the command, and the honours annexed to it.

After the nomination of confuls and prætors, the tribunes were elected to the number of twenty-four,

In consule ea vis animi atque ingenii suit, ut omnia maxima sinimaque per se adiret, atque ageret; nec cogitaret modò imperaretque quæ in rem essent, sed pleraque per se inse transigeret; nec in quemquam omnium gravius severiusque, quam in semetipsum imperium exerceret; parsimonia, & vigiliis, & labore cum ultimis militum certaret; nec quicquam in exercitu suo præcipui præter honorem atque imperium haberet. Liv. 1: 34. n. 181

fix to each legion. Their duty was to fee that Polyb. 1.6. the army observed discipline, obeyed orders, and p. 466. did their duty. During the campaign, which was fix months, they commanded successively, two and two together, in the legion for two months: they drew lots for the order in which they were to command.

At first, the consuls nominated these tribunes; and it was of great advantage to the service, that the generals themselves had the choice of their officers. In process of time, † of the four and twenty tribunes, the people elected six; about the 393d year of Rome, and † sifty years after, that is to say, in the 444th year of Rome, they chose to the number of sixteen. But, in important wars, they had sometimes || the moderation and wisdom to renounce that right, and to abandon the choice entirely to the prudence of the consuls and prætors, as happened in the war against Perseus king of Macedonia; of the effects of which Rome was in very great apprehension.

Of these twenty-four tribunes, fourteen must have served at least five years, and the rest ten: a conduct of great wisdom, and very proper to inspire the troops with valour, from the esteem and confidence it gave them for their officers. Care was also taken to distribute these tribunes in such a manner, that in each legion the most experienced

^{*} Secundæ Legionis Fulvius Tribunus militum erat. Is mensibus. Suis dimisit legionem. Liv. 1. 40. n. 41.

[†] Cum placuisset eo anno tribunos militum ad legioges suffragio fieri (nam & antea, sicut nunc quos Rusulos vocant, imperatores ipsi faciebant) secundum in sex locis Manlius tenuit. Liv. 1. 7.

[†] Duo imperia eo anno dari cœpta per populum, utraque ad rem militarem pertinentia. Unum, ut tribuni fenideni in quatuor legiones a populo crearentur, quæ antea perquam paucis iuffragio populi relisti locis, dictatorum & confulum fuerunt beneficia. Liv. I. 9. n. 30.

Decretum ne tribuni militum eo anno suffragiis crearentur, sed consulum prætorumque in iis faciendis judicium arbitriumque ettet. Liv. 1. 42. n. 31.

Lib. 23.

h: 7.

were united with those who were younger, in order

to instruct and form them for commanding.

The Præfects of the allies, præfetti sociúm, were in the allied troops what the tribunes were in the legions. They were chosen out of the Romans; as we may infer from these words of Livy, Præfectos sociúm, civesque Romanos alios. Which is confirmed by the names of those we find appointed in the same author, Lib. 27. n. 26, and 41: Lib: 334 n. 36, &c. This practice; which lest the Romans the honour; of commanding in chief amongst the allies, and gave the latter only the quality of chief subaltern officers, was the effect of a wise policy; to hold the allies in dependance, and might contribute very much to the success of enterprises, in making the same spirit and conduct actuate the whole army.

I have not spoken of the officers called Legati, lieutenants. They commanded in chief under the conful, and received his orders, as the lieutenantgenerals serve under a marshal of France, or under the eldest lieutenant-general, who commands the army in chief. It appears that the confuls chose these lieutenants. Mention is made of this in the earliest times of the republic. In the battle of the Lake of Regillus, that is to fay, in the 255th year of Rome, T. Herminius the lieutenant distinguished himself in a particular manner. Fabius Maximus, fo well known from his wife conduct against Hannibal, did not disdain to be his son's lieutenant, who had been elected conful. The latter, in that quality, was preceded by twelve lictors, who walked one after the other; part of their function was to cause due honour to be paid to the conful. Fabius the father, upon his fon's going to meet him, having passed the first eleven lictors, continuing or horseback, the conful ordered the twelfth to do his duty. That liftor immediately

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Liv. 1. 21

Id. 1. 24.

called out to Fabius with a loud voice to difmount. The venerable old man obeyed directly, and addreffing himself to his son told him: I had a mind Liv. 1. 37. to fee, whether you knew that you were conful. It is n. 1. well known that Scipio Africanus offered to serve as lieutenant under the conful his brother, and thereby determined the senate to give the latter Greece for his province.

The reader has no doubt observed, in all that I have hitherto faid concerning the Romans, a spirit of understanding and conduct which evidently thews, that the great success of their arms was not the effect of chance, but of the wisdom and ability, which prefided over every part of their government: 10 year girds garants and togs and the

fixty. The extension work younger were dere accirone Evaluation become S E C T. III, who and the party of

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HE Lacedæmonians, properly speaking, were a people of foldiers. They cultivated neither arts nor sciences. They applied themselves to neither commerce nor agriculture; leaving the care of their lands entirely to flaves, who were called Helots. All their laws, institutions, education, in a word, the whole scheme of their government, tended to making them warriors. This had been the fole view of their legislator, and it may be faid, that he succeeded perfectly well in it. Never were there better foldiers, more formed for the fatigues of war, more inured to military exercises, more accustomed to obedience and discipline, more full of courage and intrepidity, more sensible to honour, nor more devoted to glory, and the good of their

They were distinguished into two forts: the one, who were properly called Spartans, inhabited the VOL. I.

city of Sparta; the others, who were named only - Lacedemonians, refided in the country. The former were the flower of the flate, and filled all offices. They were almost all of them capable of commanding in chief. The wonderful change; occasioned only by one of them (Xanthippus) in the army of the Carthaginians, to whose aid he was fent, has been related; and also in what manner Gylippus, another Spartan, faved Syracufe. Such were the three bundred, who, with Leonidas at their head, repulled, a great while, the innumerable army of the Persians, at the streights of Thermopyla. Herod.l.7. The number of the Spartans, at that time, amounted to eight thousand men, or something more.

C. 34.

The age for carrying arms was from thirty to The elder and younger were left at home to guard the city. They never armed their flaves but upon extreme necessity. At the battle of Platæa, the troops furnished by Sparta amounted to ten thousand men, that is to say, five thousand Lacedæmonians, and as many Spartans. Each of the latter had feven Helots to attend him, the number of which, in confequence, amounted to thirty-five thousand. These were equipped as light-armed troops. The Lacedæmonians had ve-Ty little cavalry, and naval affairs were then entirely unknown to them "It was not till very late, and contrary to the plan of Lycurgus, that they commenced a maritime power, nor were their fleets at any time very numerous of any bebessoon ad a

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Athens was much larger and better peopled than Sparta. In the time of Demetrius Phaleraus it was computed to have twenty thousand citizens, ten thouland flrangers fettled in the city, and forty

All the young Athenians were inrolled in a pubhe register at the age of eighteen, and at the same time took a felemin oath, by which they engaged CILA

to ferve the republic, and to defend it to the utmost of their power upon all occasions. They were bound by this oath to the age of fixty. Each of the ten tribes, that formed the body of the state, furnished a certain number of troops, according to the occasion, either for the sea or land service: for the naval power of Athens became very confiderable in process of time. In Thucydides we see that the troops of the Athenians, in the beginning of the Peloponnesian war, were thirteen thousand heavy-armed foot, fixteen hundred archers, and very near as many horse, which in all might amount to fixteen thousand men; without including fixteen thousand more, who remained to guard the city, chadel, and ports, either citizens under or over the military age, or strangers settled among them. The fleet at that time confifted of three hundred galleys. I shall relate in the following article the order obferved in them.

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The troops both of Sparta and Athens were not numerous, but full of valour, well-disciplined, intrepid, and, one might also say, invincible. They were not foldiers raised by chance, often without spirit or home, infensible to glory, indifferent to a fuccess little affecting them; who had nothing to lole, who made war a mercenary traffic, and fold their lives for a scanty means of sublishing, their pay. They were the chosen troops of the two most warlike states in the world; foldiers deter-. mined to conquer or die; who breathed nothing but war and battle; who had nothing in view but glory and the liberty of their country; who in action believed they faw their wives and children, whose safety depended on their arms and valour. Such were the troops raised in Greece, amongst whom defertion, and the punishment of deferters, was never fo much as mentioned; for could a foldier be tempted to renounce his family and country for ever?

X 2

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OF THE ART MILITARY.

As much may be faid of the Romans; of whom it remains for us to speak. Amongst them, the confuls generally levied the troops: and, as new ones were nominated every year, so new levies were

also made annually.

directions consists and The age for entering into the army was seventeen years. * Only citizens were admitted to serve in it: and none were received under that age, but in extraordinary cases and on pressing occasions. Once they were obliged to arm flaves: but first, which is very remarkable, they were feverally asked, whether they entered themselves freely and of their own accord; because they did not think it proper to place any confidence in foldiers lifted by fraud or force. Sometimes they went fo far as to arm those who were confined in the prisons either for debt or crimes: but this was very feldom practifed.

The Roman troops therefore were composed only Those among them who were poor of citizens. (proletarii, capite censi) were not listed. They were for having foldiers, whose fortunes might be answerable to the republic for their zeal in its defence. Most of these soldiers lived in the country, to take care of their estates themselves, and to improve them with their own hands. Those who dwelt at Rome had each of them their portion of land, which they cultivated in the fame- manner. So that the + whole youth of Rome were accustomed

of was the flates in the world; folding

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Horat. Od. 6. lib. 3.

Such were the

mised to conquet or discrepted breakled mucking Delectu edicto, juniores annis septemdecem, & quosdam prætextatos scribunt—Aliam formam novi delectus inopia liberorum capitum ac necessitas dedit. Octo millia juvenum validorum ex servitiis, prius sciscitantes singulos vellentne militare, empta publice armaverunt. Liv. 1. 32. n. 57. whole listery depend

[†] Sed rusticorum mascula militum Proles, Sabellis docta ligonibus . 219 Verfare glebas, & feverana . nom alub mony Matris ad arbitrium recifos Portare fustes.

to * support the rudest fatigues; to endure sun, rain, and hail; to lie hard, and often in the midst of the fields, and in the open air; to live foberly and wifely, and to be contented with a little. They never knew pleasures or luxury, had their members inured to all forts of labour, and, by their residence in the country, had contracted the habit of handling heavy instruments, digging of trenches, and carrying heavy burthens. Equally foldiers and labourers, these Romans in entering the service only changed their arms and tools. The young people, who lived in the city, were not much more tenderly bred than the others. Their continual exercises in the field of Mars, their races on horseback and on foot, always followed by the custom of swimming the Tiber to wash off their sweat, was an excellent apprenticeship for the trade of war. Such soldiers must have been very intrepid. For the less men are acquainted with pleasures, the less they fear death. made their troo s take this path, or

Before they proceeded to levy troops, the confuls gave the people notice of the day, upon which all the Romans, capable of bearing arms, were to affemble. The day being come, and the people affembled in the capitol, or the field of Mars, the military tribunes drew the tribes by lot, and called them out as they came up. They afterwards made their

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But foldiers of a ruftic mould;
Rough, hardy, feafon'd, manly, bold;
Either they dug the stubborn ground,
Or thro' hewn woods their weighty strokes did found.

Roscommon.

Nunquam puto potuisse dubitari aptiorem armis rusticam plebem quæ sub dio & in labore nutritur; solis patiens; umbræ negligens; balnearum nescia; deliciarum ignara; simplicis animi; parvo contenta; duratis ad omnem laborum tolerantiam membris; cui gestare ferrum, sossam ducere, onus ferre, consuetudo de rure est.—Idem bellator, idem agricola, genera tantum mutabat armorum—Sudorem cursu & campestri exercitio collectum nando juventus abluebat in Tyberi. Nescio enim quomodo minus mortem timet, qui minus deliciarum novit in vita. Veget, de re mil. l. 1. 0.3.

3 choice

choice of these citizens, taking them each in his rank, four by four, as near as possible, of equal stature, age, and strength; and continued to do the

fame, till the four legions were complete.

After the troops were levied, every soldier took an oath to the consul or tribunes. By this oath they engaged to assemble at the consul's order, and not to quit the service without his permission: to obey the orders of the officers, and to do their utmost to execute them; not to retire either through fear, or to fly from

the enemy; and not to quit their rank. This was not a mere formality, nor a ceremony purely external, of no effect with regard to the conduct. It was a very ferious act of religion, sometimes attended with terrible imprecations, which made a strong impression upon the mind, was judged absolutely and sindispensably necessary, and without which the foldiers could not fight against the enemy. The Greeks as well as the Romans made their troops take this oath, or one to the same effect; and they founded their reason for it upon a great principle. They knew, that a private person of himself has no right over the lives of other men: that the prince or state, who have received that power from God, put arms into his hands: that it is only in virtue of this power, with which he is invested by his oath, that he can draw his fword against the enemy: and that, without this power, he makes himself guilty of all the blood he sheds, and commits homicide as often as he kills an enemy.

The * conful, who commanded in Macedonia against Perseus, having dismissed a legion in which the son of Cato the censor served, that young officer, who had nothing in view but to distinguish himself by some action, did not withdraw with the legion,

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Manueius believes this to have been Paulus Amilius

but remained in the camp. His father thereupon Cic. 1. 1. wrote immediately to the conful, to define, if he de Offic. thought fit to fuffer his fon to continue in the army, that he would make him take a new oath, because * being discharged from the former, he had no longer any right to join in battle against the enemy. And he wrote to his fon to the same effect, advising him not to fight till he had fworn again.

It was in consequence of the same maxim, that kenoph. Cyrus the great exceedingly applauded the action in Cyrop. of an officer, who, having raifed his arm to ftrike an enemy, upon hearing the retreat founded,

stopped short, regarding that signal as an order to proceed no farther. What might not be expected from officers and foldiers fo accustomed to obedience, and fo full of respect for their general's

orders, and the rules of discipline?

The tribunes of the foldiers at Rome, after the oath, told the legions the day and place for the general rendezvous. When they were affembled at the time fixed, the youngest and poorest were made light-armed troops; the next in age Hastati; the strongest and most vigorous Principes; and the

oldest soldiers Triarii.

Two legions were usually given to each conful. The number of foldiers to a legion was not always the fame. At first they were not above three thousand, but were afterwards augmented to four, five, fix thousand, and something more. The most usual number was four thousand two hundred foot, and three hundred horse. Such it was in the time of Polybius, where I shall fix it.

The Legion was divided into three bodies, the Hastati, the Principes, and the Triarii. The reader will be fo good to excuse me the use of these three words, having no others to express their meaning.

^{*} Quia, priore amisso jure, cum hostibus pugnare non poterat.

The two first bodies consisted each of twelve hundred men, and the third of fix hundred only.

The Hastati formed the first line; the Principes the second; and the Triarii the third. This last body was composed of the oldest and most experienced soldiers, and at the same time the bravest in the army. The danger must have been very great and urgent before it reached this third line. From whence came the proverbial expression, Res. ad Triarios rediit.

Each of these three bodies were divided into ten parts or Maniples, consisting of sixscore in the Hastati and Principes, and only of sixty in the Triarii.

Antiently and at its first institution by Romulus, the century had an hundred men from which it took its name. But afterwards it consisted only of sixty in the Hastati and Principes, and thirty Triarii. The commanders of these centuries or companies were called Centurions. I shall soon explain the distinction of their ranks.

Besides these three bodies, there were in each legion light-armed troops of different denominations, Rorarii, Accensi; and in later times the Velites. They were also twelve hundred in number. They were not properly a distinct body, but disposed into the three others, according to occasion. Their arms were a sword, a javelin, (basta) a parma, that is a light shield. The youngest and most active soldiers were chosen for this body.

From the time of Julius Cæsar no mention is made of the distinct ranks of the Hastati, Principes, and Triarii, though the army was almost always drawn up in three lines. The legion at that time was divided into ten parts, which were called Cobortes. Each cohort was a kind of legion abridged. It had six-score Hastati, six-score Prin-

cipes,

cipes, fixty Triarii, and fix-score light-armed men, which made in all four hundred and twenty. That is precisely the tenth part of a legion, consisting of four thousand two hundred foot.

The Roman cavalry was not very numerous: three hundred horse to above four thousand foot. It was divided also into ten companies, (Alas) each

confifting of thirty men.

The horse were chosen out of the richest of the Liv. 1. 1. citizens; and in the distribution of the Roman n. 43. people by centuries, of which Servius Tullius was the author, they composed the eighteen first centuries. They are the same who are afterwards mentioned in history under the name of Roman knights, and formed a third and middle order between the senate and people. The republic supplied them with horses and substitute.

Till the siege of Veii, there were no other cavalry Liv. 1. 5. in the Roman armies. At that time those who n. 7. were qualified by their estates, to be admitted into the horse, but had not an horse allowed them at the public expence, nor in consequence the rank of knights, offered to serve in the cavalry, supplying themselves with horses. Their offer was

accepted.

From thenceforth there were two * forts of cavalry in the Roman armies: the one, whom the public supplied with horses, equum publicum; and these were the true Roman knights; the others, who furnished themselves, and served equo suo, had not the title or prerogatives of the knights.

But the horse kept at the public expence was always the constitutive title of the Roman knight: and, when the censors degraded a Roman knight,

it was by taking his horse from him.

Befides

^{*} This distinction is strongly enough marked in Mago's discourse to the sente of Carthage upon the gold rings: Neminem nist equitem, & corum inforum primores, id insigne gerere. Liv. 1. 23, n. 12. These primores equitum are the true Roman knights, qui merebant equo publico.

OF THE ART MILITARY

Belides the citizens, who formed the legions, there were troops of the allies in the Roman army: these were states of Italy, which the Romans had fubjected, and had left the use of their laws and government, upon condition of supplying them with a certain number of troops. They furnished an equal number of infantry with the Romans, and generally twice as many horse. Amongst the allies, the best-made and bravest both of the horse and foot were chosen to be posted about the consul's person: these were called Extraordinarii. The third part of the horse, and the fifth of the foot, were disposed of in this manner; the rest were placed, half on the right and half on the left wings, the Romans generally referving the centre to themfelves.

The Roman army, as we see from what has hitherto been faid, confifted folely of citizens and allies. It was not till * the fixth year of the second Punic war, that the Romans admitted mercenaries into their troops, which was feldom or ever done afterwards. These were Celtiberians, who, as we find, composed the greatest part of Cn. Scipio's army in Spain: An effential fault, which cost him his life, and Rome almost the loss of Spain, and perhaps the ruin of her empire. That example, as + Livy wifely observes, ought to have taught Roman generals never to fuffer a greater number of strangers than of their own troops in their armies, It is well known, that the revolt of foreign troops more than once brought Carthage to the very brink of ruin. That republic had almost no other foldiers; which was the great defect of its militia.

Befides

^{*} ld ad memoriam insigne est, quod mercenarium militem in castris neminem ante, quam tum Celtiberos, Romani habuerunt.

Liv. 1. 24. n. 49.

[†] Id quidem cavendum semper Romanis ducibus erit, exemplaque hac vere pro documentis habenda, ne ita externis credant auxiliis non plus sui roboris suarumque proprie virium in castris habeant. Liv. 1. 25.- n. 33.

OF THE ART MILITARY.

Such a mixture of foreign and barbarous troops, and their superiority in number, in the Roman armies, were one of the principal causes of the entire ruin of the Roman empire in the West.

I return to the Centurions, whose different ranks I am to explain. I have faid that in each Maniple there were two centuries, and in consequence two centurions. He who commanded the first century of the first Maniple of the Triarii, called also Pilani. was the most considerable of all the centurions. and had a place in the council of war with the conful and principal officers: Primipilus, or Primipili Centurio. He was called Primipilus prior, to diftinguish him from the centurion who commanded the fecond century of the same Maniple, who was called Primipilus posterior. And the the same was done in the other centuries. The centurion, who commanded the fecond century of the same Maniple of the Triarii, was called fecundi pili Centurio: and so on to the tenth, who was called decimi pili Genturions's smal edg atolan grans :

The same order was observed amongst the Hastati and Principes. The first centurion of the Principes was called primus Princeps, or primi principis Centurio; the second secundus Princeps, and so on to the tenth. In this manner the Hastati were called primus Hastatus, secundus Hastatus, &c.

The centurions were raised from an inferior to a superior degree, not only by seniority, but merit.

This distinction of degrees and posts of honour, which were only granted to bravery and real service, excited an incredible emulation amongst the troops, that kept them always in spirit and order. A private soldier became a centurion, and, afterwards rising through all the different degrees, might at length arrive at the principal posts. This view, this hope, supported them in the midst of the most service,

want.

severe fatigues, animated them, prevented them from committing faults, or taking distaste to the fervice, and prompted them to the most arduous and valiant actions. It is in this manner an invin-

cible army is formed.

The officers were very warm in preferving these distinctions and pre-eminences. I shall relate an instance of this very proper to the present subject, that is, the raifing of troops; which does great honour to the Roman foldiery, and shews with what moderation and wisdom their sensibility for glory was attended.

When the Roman people had resolved upon the war against Perseus, the last king of Macedonia, amongst the other measures taken for the success of it, the fenate decreed, that the conful, charged with that expedition, should raise as many centurions and veteran foldiers, as he pleased, out of those who did not exceed fifty years of age. Twenty-three centurions, who had been Primipili, Qui primos refused to take arms, unless the same rank were granted them, which they had in the preceding campaigns. The affair was brought before the people. After Popilius, who had been conful two years before, had pleaded the cause of the centurions, and the conful his own, one of the centurions, who had appealed to the people, having obtained permission to speak, expressed himself to

> this effect you VIGO JOILY " I am called Sp. Ligustinus, of the Crustu-" mine tribe, descended from the Sabines. My " father left me a small field and a cottage, where I was born, brought up, and now live, As foon as I was of age to marry, * he gave me his " brother's daughter for my wife; She brought hall the different degrees, anglac riling throug

ee me

Pater mihi uxorem fratris fui filiam dedit, que fecum nihil atmlit præter libertatem, pudicitiam, & cum his fæcunditatem, quanta vel in diti domo fatis effet.

" me no portion, but liberty, chaffity, and a fruit-" fulness sufficient for the richest houses. We have fix fons, and two daughters, both married. Of my fons four have taken the robe of manhood, (toga virilis) the other two are still infants. I began to bear arms in the confulfhip of P. Sulpicius and C. Aurelius. I ferved two years as a private foldier in the army, in Macedonia, against king Philip. The third year T. Quintius Flaminius, to reward me for my services, " made me * captain of a century in the first " Maniple of the Hastati. I served afterwards as " a voluntier in Spain, under Cato; and that ge-" neral, who is fo excellent a judge of merit, made " me + first Maniple of the Hastati. In the war " against the Ætolians and king Antiochus, I rose " to the same rank among the Principes |. I afteres wards made several campaigns, and in a very " few years have been four times Primipilus; I " have been four and thirty times rewarded by the " generals, have received fix Civic ** crowns, have " ferved two and twenty campaigns, and am above " fifty years old. Though I had not compleated "the number of years required by the law, and " my age did not discharge me, substituting four " of my children in my place, I should deserve to " be exempt from the necessity of serving. But, by " all I have faid, I only intend to shew the justice " of my cause. For the rest, as long as those who " levy the troops shall judge me capable of bear-" ing arms, I shall not refuse the service. The " tribunes shall rank me as they please, that is

Decimum ordinem Hastatum a gnavit.

[†] Dignum judicavit, cui primum Hattatum prioris centuriæ affig-

[|] Mihi primus Princeps prioris centuriæ est assignatus.

[§] Quater primum pilum duxi.

** The crowns given for having faved the life of a citizen were called fo.

their buliness: mine is to to act, that none be ranked above me for valour; as all the generals, under whom I have had the honour to ferve and all my comrades can witness for me, I have hitherto never failed to do. For you, centurions, notwithstanding your appeal, as even, during your youth, you have never done any thing contrary to the authority of the magistrates and fenate, in my opinion, it would become your age to thew yourselves submissive to the senate and confuls, and to think every flation * honourable, that gives you opportunity to serve the republic." When he had done speaking, the conful, after having given him the highest praises before the people, left the affembly, and carried the centurion with him into the senate. There he was publicly thanked in the name of that august body, and the military tribunes, as a mark and reward of his valour and zeal, declared him Primipilus, that is, first officer of the first legion. The other centurions, renouncing their appeal, made no farther difficulty to enter into the fervice.

Nothing gives us a juster idea of the Roman character than facts of this kind. What a fund of good fense, equity, nobleness, and even greatness of foul does this soldier express! He speaks of his antient poverty without shame, and of his glorious services without vanity. He is not improperly tenacious of a false point of honour. He modestly defends his rights, and renounces them. He teaches all ages not to contend with their country, nor to make the public good give place to their private interest; and is so happy, as to bring over all those in the same case, and associated with himself, into his opinion. How powerful is ex-

their

ample!

Et omnia honesta loca ducere, quibus remp. defensuri sitis.

ample! The good disposition of a single person is sometimes all that is necessary for reducing a multitude to reason.

allo, monthly, feven medimini or barley, which

Preparations of war.

I Shall include in this article what relates to provisions, the pay of foldiers, their arms, and tome other cares necessary to be taken by generals before they begin to march.

The hodemen I dirades of a medimuus and

one third for month; that is to lay, eight bulkels of come better and con-

THE order observed by the Romans, in regard to provisions, is better known to us than that of the Greeks: the quæstor was charged with this care.

The quantity of corn for each foldier's daily subfistence was very near the same with both people; that is to say, a chenix, or the eighth part of a * Roman bushel; six of which went to the Medimnus. The chænix was also the usual daily allowance of a slave.

A Roman foldier therefore in the foot had four bushels of wheat a month; which was called mensurum: that is to say, thirty-two chænix's, which was something more than a chænix per day. The foot soldier of the allies had as much.

The Roman Horse soldier received two medimni of wheat, or twelve bushels, a month, because he had two domestics; which amounted to fourscore

and

+ Milites, out in pravillo fuerant duplet fromence in persetuent;

Bushel med Peck

^{*} The Roman bushel was about the fize of the English, and con-

and fixteen chanix's, at the rate of something more than a chænix per man daily. This horseman had two horses, one for himself, and the other to carry his baggage, &c. For these two horses he received also, monthly, seven medimni of barley, which make two and forty bushels, at the rate of one bushel and a little more than three chænix's a day for two horses.

It was necessary for one of these horse troops to have a certain income, to support the unavoidable expences he was at during the campaign. Hence it fometimes happened that a citizen, though of a Patrician family, was obliged by his poverty to

ferve in the foot.

The horsemen of the allies had a medimnus and one third per month; that is to fay, eight bushels of corn, because he had only one horse, and confequently but one fervant; and five medimni of barley for that horse, which make thirty bushels, at the rate of one bushel a day.

The quantity of wheat for the officers augmented in proportion to their pay, of which we wall fpeak in the fequel.

The portion of corn was fometimes doubled to the foldiers by way of honour and reward, as ap-

pears from feveral + passages in Livy.

The public stores of corn, of which the questors, as I have faid, had the care, were carried either in ships, in waggons, or by beafts of burthen: but the foot foldiers carried upon their shoulders the quantity of corn distributed to them for a certain time, which very much leffened the number of carriages. How a bar and a do yether to The Roman Fords loidier recei

† Milites, qui in præfidio fuerant duplici frumento in perpetuum ; in præsentia singulis bobus donati. Lib. 7.

præsentia singulis bobus donati.
Hispanis duplicia cibaria dari justit. Lib. 24.

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Magistrum equitum dicit L. Tarquitium patriciæ gentis, sed qui, cum ftipendia pedibus propter paupertatem fecisset, bello tamen primus longe Romane juventutis habitus effet. Liv. 1. 3. n. 27.

Four bushels of wheat, which was the quantity of each soldier for a month, was an heavy load, without reckoning all that he had carried besides. It is certain that they were sometimes loaded with four bushels: but this undoubtedly was on extraordinary occasions; as upon a forced march, or a sudden expedition in the enemy's country. It is highly probable that they generally carried corn only for twelve, sisteen, or twenty days at most; and this weight diminished every day by the daily

confumption.

VOL. I.

It may be asked, why corn rather than bread was given to the troops. Perhaps this custom had been transferred from the city into the camp; for in the city the public distributions were made in corn, not in bread. Besides which, the weight of corn was lighter than that of bread. ‡ Pliny observes, that the weight of a bushel of wheat in grain augments exactly one third, when made into ammunition bread. This is a confiderable difference. But again, it is conceived to have been a very great trouble for the foldiers to make their own bread, to grind the corn; and afterwards to bake it. Though they were divided into messes or chambers, called Contubernia, this feems to us a confiderable difficulty. To judge rightly of it, we must imagine ourselves to live in the fame times and countries with them, and confider the customs which then prevailed. Roman foldier, employed in grinding the corn and baking the bread, did no more in the camp, than he had done every day in the city in times of peace.

His

^{*} The French bushel of wheat weighs from nineteen to twenty bounds.

[†] Conful menstruum jusso milite secum ferre profectus, decimo post d'e, quam exercitum acceperat, castra movit. Liv. l. 44. n. 2. Aquileenses, nihil se ultra scire nec audere affirmare, quam triginta dierum frumentum militi datum. Liv. l. 44. n. 1.

¹ Lex certè naturæ, ut in quocumque genere pani militari tertia portio ad grani pondus accedit. Plin. 1. 18. c. 7.

His meal supplied him with I know not what variety of dishes. Besides the common bread, he made a kind of soft boiled food of it, very agreeable to the troops: he mingled it with milk, roots, and herbs; and made pancakes of it upon a small plate laid over the fire, or upon the hot ashes, as was antiently the manner of regaling guests, and is still practised throughout the East, where these kind of thin cakes are much preferred to our best bread.

Liv. 1. 3.

Upon certain occasions bread was distributed amongst the troops. When L. Quintius Cincinnatus was created dictator against the Æqui, he ordered all the youth capable of bearing arms to repair to the Campus Martius before sunset, with bread for five days, each of them with twelve palisades. He commanded such of the citizens as were of a more advanced age to bake bread for the young ones, whilst they were employed in preparing their arms, and providing themselves with stakes. This was chiefly done when they were to embark, because there was not so much convenience on board the vessels for making bread, as on shore.

But generally the foldier ground his corn himfelf, either in little mills, which he carried along with him, or upon stones; after which he baked his bread, not in ovens, but upon a fire, or under

the ashes.

To the corn given the troops were added falt, herbs, and roots, cheefe, and fornetimes bacon and pork.

Their drink was answerable to this diet. The Fint. in army very seldom used wine. Cato the elder drank Cat p.336 nothing but water, except in great heats, when he

Cum tiginta dierum coctis cibariis naves confcenderunt. Liv. 1. 23.

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^{*} Ut focii navales decem dierum cocta cibaria ad naves deferrent. Liv. l. 21. n. 49.

only mixed it with vinegar. The use of this drink was common in the armies: it was called posca. Every foldier was obliged to have a bottle of it in his equipage. The emperor Pescennius forbad the use of any other drink in his army: Justit vinum in Spartian. expeditione neminem bibere, sed aceto universos esse contentos. The expression, universos, seems to imply that this prohibition was univerfal, and extended to the officers as well as foldiers. This drink (posca) was very good to quench the thirst immediately, and to correct the badness of the water which they might meet with upon their march. Hippocrates fays, that vinegar is refreshing: ¿ \$ 40x9.xò; for which reason it was given to reapers, and those Ruthii.14. who worked in the field. Aristotle tells us, that Oeconom. the Carthaginians, in time of war, abstained from wine.

I have heard fay, that nothing gives persons in the army, who read the antient history, fo much difficulty, as the article of provisions; which difficulty is not without its foundation. We do not find, that either the Greeks or Romans had the precaution to provide magazines of forage, to lay up provisions, to have a commissary general of stores, or to be followed by a great number of carriages. We are amazed at what is faid of the Herod. 1.7. army of Xerxes king of Persia, which amounted, c. 1871 including the train and baggage, to more than five millions of fouls; and, for the sublistence of which, according to the computation of Herodotus, more than fix hundred thousand bushels of wheat a day were requisite. How was it possible to fupply fuch an army with fo enormous a quantity of corn, and other necessaries in proportion?

We must remember, that the same Hérodotus Ibid. c. 20. had taken care to apprize us, that Xerxes had employed himself, during four years, in making preparations

parations for this war. A confiderable number of ships, laden with corn and other provisions, always coasted near the land-army, and were perpetally relieved by others, by the means of which it wanted nothing; the passage from the Hellespont to the Grecian sea and the island of Salamis being very short, and this expedition not of a year's continuance. But no consequence should be drawn from it, being extraordinary, and one may say the only example of the kind.

In the wars of the Greeks against each other, their troops were little numerous, and accustomed to a sober life; they did not remove far from their own country, and almost always returned regularly every winter. So that it is plain, it was not difficult for them to have provisions in abundance, especially the Athenians, who were masters

at fea

Electric Logar

As much may be faid of the Romans, with whom the care of provisions was infinitely less weighty, than it is at prefent with most of the nations of Europe. Their armies were much less numerous, and they had a much smaller number of cavalry. A legion of four thousand foot made a body (after our manner) of fix or feven battalions; and, having only three hundred horse, they formed but two squadrons: so that a consular army, of about fixteen thousand foot, including the Romans and their allies, was composed of very near twenty-five of our battalions, and had but eight or nine of our fquadrons. In these days, to twenty-five battalions, we have often more than forty fquadrons. What a vast difference must this make in the consumption of forage and provisions!

They did not want four or five thousand horses for the train of artillery, with bakers and ovens, and a great number of covered waggons, each of

four horses.

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Besides this, the sober manner of life in the army, confined to the mere necessaries of life, spared them an infinite multitude of servants, horses, and baggage, which now exhauft our magazines, starve our armies, retard the execution of enterprises, and often render them impracticable. This was not the manner of living only of the foldiers, it was common to them with the officers and generals. Emperors themselves, that is to say, the lords of the universe, Trajan, * Adrian, + Pescennius, ‡ Alexander Severus, Probus, | Julian, and many others, not only lived without luxury, but contented themselves with boiled flour or beans, a piece of cheese or bacon, and made it their glory to level themselves, in this respect, with the meanest of the foldiers. It is easy to conceive of what weight fuch examples were, and how much they contributed to diminish the train of an army, to support the tafte of frugality and simplicity amongst the troops, and banish all luxury and idle shew from the camp.

It is not without reason, that all the authors I have cited at bottom observe, that those emperors affected to eat in public, and in the fight of the whole army: In propatulo-Ante papilionem-Apertis papilionibus - Sub columellis tabernaculi. This fight attracted, instructed, and consoled the foldier, and ennobled his poor diet to him, in its resemblance to that of his masters: Cunctis videntibus atque gaudentibus.

* Cibis etiam castrensibus in propatulo libenter utebatur (Adrianus) hoc est lardo, caseo, & posca. Spartian.

. † In omni expeditione (Pescennius) militarem cibum sumpsit ante

papilionem. Spattian.

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1 Apertis papilionibus (Alexander) prandit atque cœnavit, cum militarem cibum, cunctis videntibus atque gaudentibus, sume-Lamprid.

|| Et Imperatori (Juliano) non cupediæ ciborum regio more, sed sub columellis tabernaculi parcius conaturo pultis portio parabatur exigua, etiam munifici fastidienda gregario. Ammian. 1.25.

Let us compare an army of thirty thousand men, composed of such officers and foldiers as the Greeks and Romans had, robust, sobel, seasoned, and inured to all forts of fatigues, with our armies of an hundred thousand men, and the pompous train that follows them; is there a general of the least fense or understanding, that would not prefer the former? It is with fuch troops the Greeks often checked the whole forces of the East, and the Romans conquered and subjected all other nations. When shall we return to so laudable a custom? Will there not some general of an army arise of fuperior rank and merit, and at the same time of a genius folid and fensible to true glory, who shall comprehend how much it is for his honour to shew himself liberal, generous, and magnificent in sentiments and actions; to bestow his money freely for animating the foldiers, or to affift the officers, whose income does not always suit their birth and merit; and to reduce himself in all other things, I do not fay to that simplicity and poverty of the antient masters of the world, (so sublime a virtue is above our age's force of mind) but to an elegant and noble plainness, which, by the force of example, of great effect in those that govern, may perhaps fuggest the same to all our generals, and reform the bad and pernicious taste of the nation?

The care of provisions always has been, and ever will be, highly incumbent upon a good general. Cato's * maxim, that the war feeds the war, holds good in plentiful countries, and with regard to small armies: that of the Greeks is more generally true, that the war does not furnish provisions upon command, or at a fixed time. They must be provided, both for the present and the future. One of

Bellum, inquit Cato, seipsum alet. Liv. 1. 34. n. 9.

the principal instructions Cambyses king of Persia gave his fon Cyrus, who afterwards became fo glorious, was, not to embark in any expedition, till he had first informed himself, whether subsistence were provided for the troops. Paulus Æmilius would not fet out for Macedonia, till he had taken care of the transportation of provisions. If Cambyfes and Darius had been as attentive in this point, they had not occasioned the loss of their armies, the first in Ethiopia, and the other in Scythia. That of Alexander had been famished, if the counfel of Memnon, the most able general of his times, had been followed, which was to lay waste a certain extent of country in Asia minor, through which that prince was under the necessity of marching. Before the battle of Cannæ, Hannibal had not ten days provisions: a delay of some weeks had reduced him to the last extremity. Cæsar, before that of Pharfalia, must have perished for want of provisions, if Pompey would, or rather could, have waited ten or twelve days longer. Famine is an enemy, against whom the ability and valour of generals and foldiers can effect nothing, and whom the number of troops ferves only to reinforce.

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SECT. II.

Pay of the soldiers.

A MONGST the Greeks, the foldiers at first substitted themselves in the field at their own expence. This was natural; because they were the citizens themselves united to defend their lands, lives, and families, and had a personal interest in the war.

The poverty, which Sparta long professed, gives reason to believe, that they did not pay their troops. As long as the Spartans remained in Greece, the republic supplied them with provisions for their public meals, and one habit yearly. Amongst these provisions there was some meat, and a particular officer had the distribution of it. We have feen Agefilaus, to mortify Lyfander, who had filled the highest offices of the republic, give him this office, which was of no confideration. The Spartans, during the war, contented themselves with this allowance, adding to it some little plunder of the country for their better subsistence. After Lyfander had opened the way for gold and filver to re-enter Sparta, and had formed a public treafury there, as the Lacedæmonians were often transported into Asia minor out of their own country, the republic was no doubt obliged to supply them at such times with subsistence by particular aids. We have feen the younger Cyrus, at the request of Lysander, augment the pay of those who served on board the galleys of the Lacedæmonians, from three oboli, usually paid them by the Persians, to four, which very much debauched the feamen from the Athenians. Sparta's strength was not maritime. Though it was washed by the sea upon the east and south, its coasts were not advantageous for navigation, and.

Plut. in Agefil. & Lyfand.

From five pence to fix pence balf-penny. and it had only the port of Gytheum, which was neither very large nor commodious. And indeed its fleets were not very numerous, and had scarce any seamen but strangers. It is not certainly known what pay Sparta gave her land-troops, nor whether she supplied either the one or the other with provisions.

Pericles was the first that established pay for the Athenian foldiers, who till then had ferved the republic without any. Besides its being very easy to conciliate the people's favour by this method, a more urgent motive obliged him to introduce that change. He made war at a distance in Thrace, in the Cherlonefus, in the ifles, and in Ionia, during feveral months together, without molesting or squeefing the allies. It was impossible for citizens, fo long absent from their lands, trades, and other means of getting their bread, (for most of them were artifans, as the Lacedæmonians reproached them) to ferve without some support. That was a justice the republic owed them, and Pericles acted less the part of a popular magistrate than that of an equitable judge. He only prevented, like a wife politician, the defires of the people in regard to a conduct, which was become neceffary.

The usual pay of the mariners was three oboli, which made half a drachma; that is to say, five pence French; that of the land-troops four oboli, or six pence half-penny; and that of the horse a

drachma, ten pence.

Good order had been established for supporting the expences of the war. The four oldest and primitive tribes of Athens had increased to ten. At that time, for the payment of imposts, six score citizens were drawn out of each tribe, which made twelve hundred in all; these were divided into sour companies of three hundred, and into twenty classes;

claffes; of which each were again divided into two parts, the one of the richer citizens, the other of fuch as were less fo. The public expences fell upon the rich and opulent, but upon some more than others. When any urgent and fudden neceffity happened, that made it necessary to raise troops, or fit out a fleet, the expences were divided amongst these citizens in proportion to their estates: the rich advanced the money, for the immediate fervice of the republic, and the others had time allowed to reimburse them, and pay their quota.

Plut. in

It appears from the example of Lamachus, who Nic. p.533 was fent with Nicias to command at the fiege of Syracuse, that the Athenian generals served at their own expence. Plutarch observes, that this Lamachus, who was very poor, not being in a condition to pay any thing towards the expences of the war, fent an account to the people of what he had laid out upon his own person, in which his daily subfistence, cloaths, and even shoes, and stockings were included.

> The Roman foldiers, in the earlier times of the republic, ferved without pay or gratification. The wars in those days were not very distant from Rome. and of no long duration. As foon as they were terminated, the foldiers returned home, and took care of their affairs, lands, and families. It was not till four hundred and forty years after the building of Rome, that the fenate, upon occasion of the fiege of Veii, which was very long, and continued without interruption during the winter, contrary to custom decreed, without being * re-

quested.

^{*} Additum deinde, omnium maxime tempestivo principum in multitudinem munere, ut ante mentionem ullam plebis Tribunorumve decerneret senatus, ut stipendium miles de publico acciperet, cum ante id tempus de suo quisque functus eo munere esset. Nihil acceptum unquam a plebe tanto gaudio traditur. Concursum itaque ad Curiam esse, prehensatasq; exeuntium manus, & patres vere appel-

quested, that the republic should pay the soldiers a fixed sum for the services they should render it. This decree, the more agreeable to the people, as it appeared the pure effect of the senate's liberality, occasioned universal joy; and the whole city cried out, that they were ready to shed their blood, and sacrifice their lives, for so munificent a

country.

The Roman senate shewed the same wisdom upon this occasion, as Pericles had done at Athens. The soldiers at first whispered, and at length openly vented their complaints and murmurs against the length of the siege, which laid them under the necessity of continuing remote from their families during even the winter, and by that long absence occasioned the ruin of their lands, which remained uncultivated, and became incapable of affording them substitutes. These were the real motives of the senate's conduct, who artfully granted that as a favour, which necessity was upon the point of extorting from them by the invectives of some tribune of the people, who would have made it an honour to himself.

To answer this pay, a tax was laid upon the Liv. 1. 4. citizens in proportion to their estates. The senators n. 60. set the example, which was followed by all others, notwithstanding the opposition of the tribunes of the people. It appears that none were exempt Liv. 1. 33. from it, not even the augurs nor pontiss. They n. 42. were dispensed from paying it, during some years, by violent means, and their private authority. The quæstors cited them to appear and see themselves sentenced to pay the whole arrears due from that time. They appealed to the people, who condemned them. When wars were terminated, and

appellatos, effectum esse fatentibus, ut nemo pro tam munifica patria, donec quicquam virium superesset, corpori aut sanguini suo parceret. Liv. 1. 4. n. 59.

licarn. in Excerpt. Legat. P. 747.

Plut. in P. Æmil. P. 275.

.F. 3.

Dion. Ha- considerable spoils had been taken from the ene my, part of them was applied in reimburfing the people the fums that had been raised for carrying them on: which is a very admirable, and very uncommon example of public faith. The tax, of which I speak, subsisted till the triumph of Paulus Æmilius over the Macedonians, who brought fo great a quantity of riches into the public treafury, that it was thought proper to abolish it for ever.

> Though the foldiers usually served only six months, they received pay for the whole year, as appears from several passages in Livy: This was paid them at the end of the campaign, and sometimes from fix months to fix months. What I have hitherto faid of pay regards only the foot.

> It was also * granted three years after to the horse during the same siege of Veii. The republic used to supply them with horses: they had been so generous, in a preffing necessity of the state, to declare that they would mount themselves at their

> The pay of the foldiers was not always the fame; it varied according to the times. It was at first

own expences.

only three affes a day for the foot: (fomething more than three pence French) at that time there were ten affes to a denarius, which was of the same weight and value as the Grecian drachma. The de-Plin. 1. 33. narius was afterwards raifed to fixteen affes, in the 536th year of Rome, when Fabius was dictator, at which time the pay role from three to five pence. We ought not to be furprised at the smallness of this pay, when we confider the price of provisions.

Polybius informs us, that in his time the bushel of 13. P. 103. wheat was usually fold for four oboli, or fix pence half-penny French; and the bushel of barley for

half

^{*} Equiti certus numerus æris est assignatus. Tum primum equis (suis) merere Equites coeperunt. Liv. 1. 5. n. 7.

half that price. A bushel of wheat was sufficient

for a foldier for eight days.

Julius Cæsar, to confirm the soldiers the more strongly in his interest, doubled their pay, and made it amount to ten pence: Legionibus stipendium in perpetuum duplicavit.

There were other alterations in it under the em- Sueton, perors, but I do not think it necessary to enter c. 26.

into the detail of them.

Polybius, after having said that the daily pay of the foot was something more than three pence, Two obolicadds, that the centurions had six pence half-penny, Four obolicand the horse ten-pence.

Six obolication.

From this daily pay of five-pence, which was the usual pay in Polybius's time, the sum total yearly amounted to almost an hundred livres, without including the allowance of corn and other provisions, with which they were daily supplied. I take the year as twelve months, each of thirty days, which amount to three hundred and sixty days; and it appears that it was sometimes taken in this manner, in regard to the pay of troops.

Out of this annual sum, a part was reserved for their cloaths, arms, and tents. This Tacitus tells Annal.1.1. us: Enimvero militiam ipsam gravem, infructuosam: c. 17. denis in diem assibus animam & corpus assimari. Hinc vestem, arma, tentoria. And Polybius adds corn to it: Non frumentum, non vestem, nec arma gratuita militi suisse; sed certa borum pretia de stipendio quas-

As to what regards the great officers, consuls, proconsuls, lieutenants, prætors, proprætors, and quæstors, it does not appear, that the republic paid them for their services in any other manner, than by the honour annexed to these offices. She supplied them with the necessary and indispensable disbursements of their commissions: robes, tents, horses, mules, and all their military equipage.

They

They had a certain fixed number of flaves, which was not very great, and which they were not at liberty to augment, the law admitting them to take new ones only in the room of fuch as died. In the provinces through which they passed, they exacted nothing but torage for their horses, and wood for themselves from the allies. And those who piqued themselves upon imitating the entire difinterestedness of the antients, took nothing from them. Cicero acted in this manner, as he himself tells Atticus in a letter. *" The people are at " no expence, fays he, either for me, my lieutes " nants, the quæstor, or any other officer. I accept neither of forage nor wood, though per-" mitted by the Julian law. I only confent that " they supply my people with an house and four " beds; though they often lodge in tents." It was of the spirit of the Roman government not to fusfer their generals or magistrates to be a charge to their allies. It was this conduct, fo full of wifdom and humanity, that rendered the authority of the Romans fo venerable and amiable; and it may be faid with truth, that it contributed, more than their arms, to render them mafters of the universe.

Liv. l. 42.

Livy tells us his name who first infringed the Julian law, which regulated the expences that might be exacted from the allies; and his example had only too many followers, who in a short time exceeded him. This was L. Posthumius. He was angry with the inhabitants of Præneste, because, during some stay he had made there when a pri-

^{*} Nullus sit sumptus in nos, neque in legatos, neque in quæstorem, neque in quemquam. Scito non modo nos scenum, aut quod lege Julia dari solet, non accipere; sed ne ligna quidem nec præter quatuor lectos & tectum quemquam accipere quidquam; multis locis ne tectum quidem, & in tabernaculo manere plerumque. Epist. 16. lib. 5. ad Attics

vate person, they had not treated him with the refpect he believed his due. When he was elected conful, he thought of revenge. Being to pass through that city to his province, he let them know, that they must fend their principal magiftrates to meet him, to provide him lodging in the name and at the expence of the public, and to have the beafts of burthen, that were necessary, in readiness against his departure, Before him, says Livy, no magistrate had ever put the allies to any expence, nor exacted any thing from them. The republic supplied them with mules, tents, and all the carriages necessary to a commander, in order to prevent their taking any thing from the allies. As hospitality was very much honoured and practifed in those times, they lodged with their particular friends, and took great pleasure in receiving them at Rome in their turn, when they came thither. When they fent lieutenants upon any fudden expedition, the cities through which they passed received orders to supply them with an horse, and nothing more. * Though the conful might have had a just cause of complaint against the people of Præneste, he ought not to have used, or rather abused, the authority of his office, to make them sensible of it. Their silence, whether the effect of moderation or excessive timidity, prevented them from laying their complaints before the Roman people, and authorised the magistrates from thenceforth to make that new yoke heavier every day; as if impunity, in the first instance, had implied the approbation of Rome, and had given them a kind of right to act the fame thing.

^{*} Injuria (the sense requires Ira to be read) consulis etiams justa, non tamen in magistratu exercenda, & silentium nimis aut modestum aut timidum Prænestinorum, jus veluti probato exemplo magistratibus secie graviorum in dies talis generis imperiorum. Liv.

OF THE ART MILITARY.

The antient Romans, far from behaving in this manner, or endeavouring to inrich themselves at the expence of the allies, had no thoughts but of protecting and defending them. They believed themselves sufficiently paid by the glory of their exploits, and often, after great victories and illustrious triumphs, died in the arms of poverty, as they had lived. The Grecian and Roman histories abound with examples of this kind.

SECT. III.

Antient arms:

This not my design in this place to describe all the various kinds of arms used by the soldiery of all nations. I shall confine myself principally, according to my custom, to those of the Greeks and Romans, who, in this respect, had many things common to both. The Romans had borrowed the use of most of them from the Tuscans and Greeks, who inhabited Italy. Florus observes, that *Tarquinius Priscus, who was descended from the Corinthians, introduced abundance of the Grecian customs at Rome.

Armour was antiently of brass, and afterwards of iron. The poets often use one for the other.

The armour of the Greeks, as well as that of most other nations, was, in the earliest ages, the helmet, the cuirass, the shield, the lance, and the sword. They used also the bow and the sling.

The helmet was a defensive armour for the head and neck. It was either of iron or brass, often in the form of the head, open before, and leaving the face uncovered. There were head-pieces that might

^{*} Tarquinius Priscus—oriundus Corintho, Græcum ingenium Italicis artibus miscuit. Flor. l. 1. c. 5.

be let down to cover the face. Upon the top of them they placed figures of animals, lions, leopards, griffins, and others. They adorned them with plumes of feathers, which floated in the wind, and

exalted their beauty.

The cuirals was called in Greek 9 wpat, a name which has been adopted into the Latin, that however more frequently uses the word lorica. At first cuirasses were made either of iron or brass, in two pieces, as they are in these days: these two pieces were fastened upon the sides by buckles. Alexan- Polyan. der left the cuirass only the two pieces which co-Demetr. vered the breaft, that the fear of being wounded 1. 4. in the back, which had no defence, might prevent

the foldiers from flying.

There were cuiraffes of fo Hard a metal, that Plut. in they were absolutely of proof against weapons. Demetr. Zoilus, an excellent artist in this way, offered two P. 898. of them to Demetrius, firnamed Poliorcetes. To shew the excellency of them, he caused a dart to be discharged at them out of the machine, called a catapulta, at the distance of only twenty-six paces. How violently foever the dart was shot, it made no impression, and scarce lest the least mark

upon the cuirafs.

Many nations made their cuiraffes of flax or wool: these were coats of arms made with many folds, which refifted, or very much broke, the force of blows. That with which Amasis present-Herod. ed the Lacedæmonians, was of wonderful work-1.3. c. 471 manship, adorned with figures of various animals, and embroidered with gold. What was most surprising in this cuirass was, that every thread in it. though very small, was composed of three hundred and fixty smaller, which it was not difficult to diftinguish.

I have faid that the cuirass was called lorica in Latin. This word comes from lorum, a thong or VOL. I. **Itrap**

strap of leather, because made of the skin of beasts. And from the French word cuir also cuirass is derived. The cuirass of the Roman legions consisted of thongs, with which they were girt from the armpits to the waift. They were also made of leather, covered with plates of iron, in the form of scales, or of iron rings twisted within one another, in the form of chains. These are what we call coats of mail, in Latin, lorica bemis conserta, or bamata.

With the thorax of the Greeks the foldier was much less capable of motion, agility, and force; whereas the girts of leather, successively covering each other, left the Roman foldier entire liberty of action, and, fitting him like a veft, defended him against darts.

The buckler was a defensive piece of armour, proper to cover the body. There were different

forts of them.

Scutum, Sueis, or oaxs. The shield. This buckler was long, and sometimes of sommoderate a fize, that it would cover a man almost from head to foot. Such were those of the Egyptians' men-Cyrop.1.7. tioned by Xenophon. It must have been very large amongst the Lacedæmonians, as they could carry the body of one who had been killed upon From whence came the celebrated injunction of a Spartan mother to her fon, when he fet out for the war : "H rais, i ini rais, that is to fay, Either bring back this buckler, or return upon it.

> It was the greatest disgrace to return from battle with the lots of the buckler; undoubtedly, because it seemed to argue, that the soldier had quitted it to fly the more easily, without regard to any thing but faving his life. The reader may temember, that Epaminondas, mortally wounded in the celebrated battle of Mantinæa, when he was carried off into his tent, asked immediately,

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p. 178.

with concern and emotion, whether his buckler was fafe doing boughted and to cloud one as the

Chypeus, comis. It is often confounded with the Scutum. It is, however, certain, that they were different; because, in the census, or muster, made by Servius Tullius, the chypeus is given to those of the first class, and the featum to those of the second And in fact the feutum was long and square: the clypeus round and shorter. Both had been used by the Romans in the time of the kings. After * the fiege of Veii, the scutum became more common. The + Macedonians always made use of the clypeus. except perhaps in later times.

The buckler of the Roman legions was convex. and in the form of a gutter-tile. According to Polybius it was four feet long, and two and an half broad. These bucklers were antiently made of Plut, in wood, fays Plutarch, in the life of Camillus: but Cam. this Roman general caused them to be covered with P. 150. plates of iron, to make them the better defence

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The Parma was a small round buckler, lighter and shorter than the scutum, used by the heavyarmed infantry. The light-armed foot and the cavalry had this shield.

The Pelta was almost the same thing with that called cetra. This buckler was light, in the form

of a half moon, or femi-circle, on the top.

The Sworp. The forms of it were very different, and in great number: I shall not amuse the reader with describing them, but content myself with remarking, I that there were long fwords

tum, majus corpori tegumentum. Liv. 1. 9. n. 19.

^{*} Clypeis antea Romani us: deinde, postquam facti sunt stipen-diari, scuta pro clypeis secere. Liz. 1. 8. n. 8. † Arma, clypeus, farissæque illis (Macedonibus:) Romano scu-

dallis Hispanisque scuta ejusdem formæ ferè erant, dispares ac diffimiles gladii. Gallis prælongi, ac fine mucronibus : Hispane, punctim magis quam cæsim assueto petere hostem, brevitate habiles, & cum mucronibus. Liv. l. 22. n. 46.

without points, which served to strike with the edge, as were those of the Gauls, of which we shall soon speak. There were others shorter and stronger, which had both point and edge, punctim & cossim, such as the Spanish sabres were, which the Romans borrowed from them, and used ever after with advantage. * With these sabres they cut off arms and heads, and made most horrible wounds, at one blow.

The manner, in which the fword was worn by the antients, was not always alike. The Romans generally wore it on the right thigh, to leave room, without doubt, for the moving of the buckler with more freedom, which was on the left fide: but, in certain remains of antiquity, we fee that their foldiers wore them on the left.

mans, the two most warlike nations of the world, wore swords in times of peace; nor was duelling

known amongst themen's solars of chou to consider

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PIKES OF LANCES were used by almost all nations. Those which we see upon the monuments, made in the times of the Roman emperors, are about six seet and an half long, including the iron point.

The Sarissa of the Macedonians was of so prodigious a length, that one could scarce believe such a weapon could be used, if all the antients did not agree in this point. They give it a length of six-

teen cubits, which makes eight yards.

Bows and Arrows are of the most remote antiquity. There were few nations who did not use them. The Cretans were esteemed excellent archers. We do not find that the Romans used the bow in the earliest times of the republic. They

introduced

Gladio Hispaniensi detruncata corpora brachiis abscissis, aut tota cervice desecta, divisa à corpore capita, patentiaque viscera, & Reditatem aliam vulnerum viderunt. Liv. 1. 31. n. 34.

introduced it afterwards; but it appears that they had scarce any archers except those of the auxiliary

troops.

The SLING was also an instrument of war much used by many nations. The Balearians, or the people of the islands now called Majorca and Minorca, excelled at the fling. They were fo atten- Veget, de tive in exercising their youth in the use of it, that te milit. they did not give them their food in the morning till they had hit a mark. The Balearians were very much employed in the armies of the Carthaginians and Romans, and greatly contributed to the gaining of victories. * Livy mentions some cities of Achaia, Egium, Patræ, and Dymæ, whose inhabitants were still more dexterous at the sling than the Balearians. They threw stones farther, and with greater force and certainty, never failing to hit what part of the face they pleased. Their slings discharged the stones with so much force, that neither buckler nor head-piece could refift their impetuofity; and + the address of those who managed them was fuch, according to the Scripture, that they could hit an hair, without the stones going either on one fide or the other. Instead of stones they fometimes charged the fling with balls of lead, which it carried much farther.

JAVELINS. There are two forts of them, which

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resore: basta. I call it javelin. It was a kind of dart not unlike an arrow, the wood of which was generally three feet long, and one inch thick. The point was four inches long, and tapered to so fine an end, that it bent at the first stroke in such

Longiùs, certiusque, & validiore ich quam Balearis funditer, eo telo usi sunt—Non capita solum hostium vulnerabant, sed quem locum destinassent oris. Liv. 1. 38. n. 29.

+ Among all this people there were seven hundred men left-handed, every one could sling stones at an hair-breadth, and not miss. Judg.

XX. 16.

a manner, as to be useless to the enemy. The light-armed troops used it. They carried several javelins in their lest hand, with which they held their buckler, in order to have the right free, either to dart javelins at a distance, or to use the sword. Livy gives each of them seven javelins.

roods: Pilum. I call this the great javelin ‡, because thicker and stronger than the other. The legions darted it at the enemy, before they came to close fight. When they had neither time nor room, they threw it upon the ground, and charged the

enemy fword in hand.

-0101 3

The CAVALRY had almost the same arms as the foot: the helmet, the cuirass, the sword, the lance,

and a smaller or lighter buckler.

We see in Homer, that in the Trojan war the most distinguished persons rode on chariots drawn by good horses, with an esquire or charioteer, in order to charge through battalions with the greater vigour, and to fight with more advantage from them. But people were soon undeceived in these points, by the double inconvenience of being stopped short by hedges, trenches, and ditches; or remaining useless in the midsts of the enemy, when the horses were wounded.

The use of chariots armed with scythes was afterwards introduced. These were placed in the front of the battle, to begin it by breaking the enemy.

† Eis parmæ breviores quam equestres, & septena jacula quaternos longa pedes data, præsixa ferro, quale hastis velitaribus inest.

Liv. l. 26. n. 4.

† Arma Romano scutum — & pilum haud paulo quam hasta rehementius istu missuque telum. Liv. l. 9. n. 19.

Et cum cominus venerant, gladiis a velitibus trucidabantur. Hic miles tripedalem parmam habet, & in dextra hastas, quibus eminus utitur—Quod si pede collato pugnandum est, translatis in lavam hastis, stringit gladium. Liv. 1. 38. n. 21.

This manner of fighting was at first in great use amongst all the people of the East, and was believed decisive with regard to victory. The people who excelled most in the art of war, as the Greeks and Romans, did not adopt it; finding by experience, that the cries of the troops attacked in this manner, the discharges of the light-armed soldiers, and, still more than either, the unevenness of the ground, rendered all the equipage of these chariots inessectual, and often even pernicious to those who

employed them.

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The nations who had elephants amongst them, as those of the East and Africa, believed that those animals, no less docile than terrible from their force and enormous fize, might be of great use to them in battles. Accordingly, when instructed and guided with art, they did them great service. carried their guides upon their backs, and were usually placed in the front of their armies. vancing from thence, they broke the closest ranks with an imperuofity that nothing could refift, crushed whole battalions with their vast weight, and diffused universal terror and disorder. To improve their effect, towers were placed on their backs, which were like portable baftions, from the tops of which chosen troops discharged darts and javelins upon the enemy, and compleated their defeat.

This custom subsisted long amongst the nations I speak of, from whom it passed to other people, who had learned by fatal experience, how capable those animals were of contributing to victories. Alexander, having conquered the nations subject to the Persian empire, and afterwards India, began to make use of elephants in his expeditions; and his successors, in their wars with each other, rendered the use of them very common. Pyrrhus transported

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fome into Italy; and the Romans learned of that general, and afterwards of Hannibal, the advantage to be made of them in a day of battle. * It was in the war against Philip, that they used them for the first time.

But this advantage, as great as it appeared, was balanced by inconveniences that at length made them disapprove of the use of elephants. The generals, instructed by experience, rendered the attack of those beasts ineffectual; by ordering their troops to open and give them free passage. Besides this, the frightful cries of the enemy's army, joined with an hail of darts and stones, discharged on all sides by the archers and slingers, put them into confusion, made them mad and furious, and often obliged them to turn upon their own troops, and commit the havock amongst them intended against the enemy. At fuch times, he who guided

Liv. 1. 27. the elephant was obliged, for avoiding that miffortune, to plunge an iron spike into their heads,

upon which they fell dead immediately.

Veget. 1.3. Camels, besides being employed to carry, were c. 23. also of service in battles. They had this conve-Xenoph. nience in them, that in dry and fandy countries in Cyrop. 1.7.p.176 they could support thirst with ease. Cyrus made great use of them in the battle against Croesus, and they contributed very much to the victory he gained

over him, because the horses of the latter, not being able to support the smell of them, were im-Liv. 1. 37. mediately put into disorder. We find, in Livy, the Arabian archers mounted on camels with fwords of fix feet long, to reach the enemy from the high backs of those animals. Sometimes two Arabian archers fat back to back upon the fame camel, in

order.

n. 49.

n. 40.

^{*} Consul in aciem descendit, ante signa prima locatis elephantis: quo auxilio tum primum Romani, quia captos aliquot bello Punico habebant, un funt. Liv. l. 31. n. 36.

order to be able, even in flying, to discharge their

darts and arrows against their pursuers.

Neither the elephants nor camels were of any fervice in armies, in comparison with that of the horse. That animal seems designed by nature for battles. There is something martial in his air, his chest, his pace, as Job so well observes in his ad-Job xxxix mirable description of him.

In many countries, the horse as well as horseman were entirely covered with armour of iron: these

were called cataphracti equites.

But what is hard for us to comprehend, amongst all the antient people, the horse had neither stirrups nor faddle, and the riders never used boots. Education, exercise, and habit, had accustomed them not to want those aids; and even not to perceive that there was any occasion for them. There were some horsemen, such as the Numidians, who did not know fo much as the use of bridles to guide their horses, and who, notwithstanding, by their voice only, or the use of the heel or spur, made them advance, fall back, stop, turn to the right or left; in a word, perform all the evolutions of the best disciplined cavalry. Sometimes, having two horses, they leaped from one to the other even in the heat of battle, to ease the first when fatigued. These Numidians, as well as the Parthians, were never more terrible, than when they feemed to fly through fear and cowardice. For then, facing fuddenly about, they discharged their darts or arrows upon the enemy, who expected nothing less, and fell upon them with more impetuosity than ever.

I have related hitherto what I found most important concerning the arms of the antients. In all times the great captains had a particular attention to the armour of their troops. They did not care whether they glittered or not with gold and

OF THE ART MILITARY.

filver; they left such idle ornaments to soft and effeminate nations, like the Persians. They * approved a more lively and martial brightness, one that might inspire terror, such as was that of steel and brais.

Xenoph, Cyrop. 1. 2. p. 40.

It was not only the brightness, but the quality of the arms in particular, to which great generals were attentive. The ability of Cyrus the Great, was justly admired, who, upon his arrival at the camp of his uncle Cyaxares, changed the arms of his troops. Most of them used almost only the bow and javelin, and confequently fought only at a distance; a kind of fight, wherein the greater number had eafily the superiority. He armed them with bucklers, cuiraffes, and fwords or axes, in order to their being in a condition to come to close fight immediately with the enemy, whose multitude thereby became useless. Iphicrates, the celebrated general of the Athenians, made feveral useful alterations in the armour of the soldiers, in regard to their shields, pikes, swords, and cuirasses.

Plut, in Philop. p. 360. Philopæmen also, as I have observed in its place, changed the armour of the Achæans, which, before him, was very desective; and that alteration did not a little contribute to render them superior to all their enemies. There are many examples of this kind, which it would be too long to repeat here, that shew, of what advantage to an army is the ability of a general, when applied to reforming whatever may be desective; and how dangerous it it is tenaciously to retain customs established by length of time, without daring to make any alterations in them, however judicious and necessary.

^{*} Macedonum dispar acies erat; equis virisque, non auro, non discolori veste, sed ferro arque gre fulgentibus. 2. Curt. 1. 3. c. 3

No people were ever more remote from this scrupulous attachment than the Romans. Having attentively studied what their neighbours and enemies practited, they well knew how to apply it to their own advantage; and by the different alterations they introduced in their armies, as well with regard to their armour, as whatever else related to military affairs, they rendered themselves invincible.

ARTICLE IV.

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SECT. I.

Preliminary cares of the general.

A LL that we have feen hitherto, the raising of troops, their pay, their arms, their provisions, is in a manner only the mechanism of war. There are other still more important cares, that depend upon the general's ability and experience

Those, who have distinguished themselves most in the knowledge of military assairs, have always believed it particularly incumbent on the general to settle the plan of the war; to examine whether it is most necessary to act upon the offensive or defensive; to concert his measures for the one or the other of those purposes; to have an exact knowledge of the country into which he marches his army; to know the number and quality of the enemy's troops; to penetrate, if possible, his designs; to take proper measures at distance for disconcerting them; to foresee all the events that may happen, in order to be prepared for them; and to keep

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p. 18.

keep all his resolutions so well disguised and so fecret, that no part of them escapes him and takes air. In this last point, perhaps, nothing was ever better observed than amongst us, in the war lately terminated; which is not a little for the honour of the ministry and officers.

Liv. 1. 44. We have feen, in the war against Perseus, the wife precautions taken by Paulus Emilius, before opening the campaign, that nothing might be wanting to the fuccess of it; which precautions were the principal cause of his conquering that prince.

> It is upon these preliminary provisions the success of enterprises depends. And it was by them Cyrus began, as foon as he arrived in the camp of his uncle Cyaxares, who had not thought of taking

any fuch measures.

It is amazing to confider the orders given by the same Cyrus, before he marched against the enemy; and the immense detail into which he entered with respect to all the necessaries of the

He was to march fifteen days through countries that had been destroyed, and in which there were neither provisions nor forage: he ordered enough of both for twenty days to be carried, and that the foldiers, instead of loading themselves with baggage, should exchange that burthen for an equal one of provisions, without troubling themselves about beds or coverlids for fleeping, the want of which their fatigue would supply. They were accustomed to drink wine, and, to prevent the fudden change of their drink from making them fick, he ordered them to carry a certain quantity with them, and to use themselves by degrees to do without it, and to content themselves with water. He advised them also to carry falt provisions along with them,

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hand-mills for grinding corn, and medicines for the fick: to put into every carriage a fickle and a mattock, and upon every beaft of burthen an ax and a fcythe, and to take care to supply themselves with a thousand other necessaries. He carried also along with him fmiths, shoemakers, and other workmen, with all manner of tools used in their trades. For the rest, he declared publicly, that whoever would charge himself with the care of fending provisions to the camp, should be honoured and rewarded by himself and his friends; and even if they wanted money for that service, provided they would give fecurity, and engage to follow the army, he would affift them with it. A detail of this kind, part of which I have omitted, is not unworthy of a general, nor a great prince, as Cyrus was.

We see in Pericles's harangue to the Athenians, Thucyd. in regard to the Peloponnesian war, how much 1. 9.

that great man, who administered the affairs of his republic with fo much wisdom, excelled in the science of war, and how vast and profound his forefight was. He regulated the plan of the war, not only for one campaign, but for its whole duration; and fettled it upon the perfect knowledge he had himself, and imparted to the Athenians, of the Lacedæmonian forces. He determined them to fhut themselves up within their walls, and to suffer their lands to be ruined, rather than hazard a battle against an army much more numerous than their own; whilst, on his side, he went with a sleet to ravage the whole coast of Peloponnesus. recommended to them especially not to form any enterprises abroad, and not to think of any new conquests, upon which conditions he affured them of victory. It was from despising this advice, and carrying their arms into Sicily, that the Athenians

were ruined.

A TOM OF THE PARTY OF THE PARTY

Was there ever any thing more wife or better concerted than Hannibal's plan of attacking the Romans in their own country! He proposed the same design to Antiochus, which would have distressed the Romans exceedingly, had he followed it: but that prince had neither sufficient extent of mind, nor discernment enough, to comprehend its whole advantage and wisdom.

Alexander had perhaps been stopped short, reduced by famine, and obliged to retreat into his own kingdom, if Darius, as we have observed above, had destroyed the country through which his army was to pass, and had made a powerful diversion in Macedonia, as Memnon, one of his generals, and one of the greatest captains of antiquity, advised him.

To form such plans is not to make war from day to day, and in a manner by chance, and to wait till events determine us; but to act like a great man, and with a just knowledge of the cause we have in hand. * Enterprises, concerted with so much wisdom, seldom fail of success.

Qui victoriam cupit, milites imbuat diligenter. Qui secundos optat eventus, dimicet arte, non casu. Veget. 1. 3. In prologo.

Establish of the contract of the contract of SECT.

guint the Romans, went expectly to Cadle, to

SECT. II.

Departure and march of the troops.

THE beginning and end of the war, the de-xenoph, parture and return of the troops, were al-in Cyrop, ways folemnifed by public acts of religion and facrifices.

The reader undoubtedly remembers, that, in the advice Cambyses, king of the Persians, gave hit fon Cyrus, when he fet out for his first campaign, he infifted principally upon the necessity of not undertaking any action great or small, either for himfelf or others, without having first consulted the gods, and offered facrifices to them. He observed Ibid. 1. 2. this counsel with surprising exactness. When he arrived upon the frontiers of Persia, he sacrificed victims to the gods of the country, and to those of Media, as foon as he entered it, to implore their aid, and that they would be propitious to him. His historian is not ashamed to repeat in many places, that this prince took great care, upon all occasions, to discharge this duty, upon which he made the whole fuccess of his enterprises depend. Xenophon himself, a warrior and philosopher, never engaged in any important affair, without having first consulted the gods.

All Homer's heroes appear very religious, and have recourse to the divinity, on all occasions and dangers.

Alexander the Great did not quit Europe, and enter Asia, without having first invoked the divinities of both,

Hannibal,

OF THE ART MILITARY,

Liv. 1. 21 n. 21.

Hannibal, before he engaged in the war against the Romans, went expressly to Cadiz, to acquit himself of the vows he had made to Hercules, and to implore his protection by new ones; for the success of the expedition he had undertaken.

The Greeks were very religious observers of this duty. Their armies never took the field without being attended by aruspices, sacrificers, and other interpreters of the will of the gods, of which they believed it their duty to be affured before they hazarded a battle.

But, of all the nations of the world, the Romans were the most exact in their recourse to the divinity, either * in the beginning of their wars, in the great dangers to which they found themselves sometimes exposed, or after their victories; and ascribed the success of their arms solely to the care they had taken to render this homage to their gods.

They were mistaken in the object, not the principle; and this universal custom of all nations shews, that they always acknowledged a supreme almighty Being, who governed the world, and disposed at his will of all events, and in particular of those of war, attentive to the prayers and vows addressed to him.

made the whole fuccess of his entern

Civitas religiosa, in principiis maxime novorum bellorum, sup-

Alexander the Great did not quit Europe, and there it has without having act moving the divi-

Indiam III

March

ACCOUNT OF STREET

Fjus belli (contra Annibalem) causa supplicatio per urbem habita, atque adorati dii; ut bene ac feliciter eveniret quod beslum populus Romanus justisset. Liv. l. 21. n. 17.

March of the army.

When every thing was ready, and the army affembled at the time and place fixed, it began to march. To avoid prolixity, I shall speak only of the Romans in this place: from whence the Reader may form a judgment of other nations.

It is amazing to confider the loads under which the foldiers marched. Befides their arms, fays * Cicero, the buckler, the fword, the helmet, (the javelins, or half-pikes, might be added) befides these arms which they considered no more as a burthen than their limbs, for they said their arms were in a manner a soldier's members, they carried provisions for several days, and sometimes for three weeks or a month, with all the implements for dressing their food, and each a stake or palisado of considerable weight. † Vegetius recommends the exercising young soldiers, in carrying a weight of above sive and forty pounds a day's march in the usual pace of the army, in order to their being accustomed to it against times of occasion and ne-

Nostri exercitus primum unde nomen habeat, vides. Deinde qui labor, quantus agminis! ferre plus dimidiati mensis cibaria, ferre si quid ad usum velint, ferre vallum: nam scutum, gladium, galeam in onere nostri nilites non plus numerant quam humeros, lacertos, manus. Arma enim membra militis esse ducunt; qua quidem ita gerunt aptè, ut, si usus soret, abjectis oneribus, expeditis armis, ut membris, pugnare possint. Cic. Tuscul. 2. n. 37.

⁺ Pondus quoque bajulare usque ad 60 libras & iter facere gradu militari, frequentissime cogendi sunt juniores, quibus in arduis expeditionibus necessitas imminet annonam pariter & arma portandi. Veget. l. 1. c. 19.

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ceffity. * And this was the practice of the antient Roman foldiers.

Veget. 1. 1.

The usual + march of the Roman army, according to Vegetius, was twenty thousand paces a day; that is to say, at least six leagues, allowing three thousand paces to each league. Three times a month, to accustom the soldiers to it, the foot as well as horse were obliged to take this march.

De bell. Gall. 1. 7.

By an exact calculation of what Cælar relates of a fudden march, which he made at the time he befieged Gergovia, we find that in four and twenty
hours he marched fifty thousand paces. This he
did with the utmost expedition. In reducing it to
less than half, it makes the usual day's march of
fix leagues.

Xenoph. de Exped. Cyr. l. 7. P. 427.

Xenophon regularly fets down the days marches of the troops, who returned into Greece after the death of the younger Cyrus, and made the fine retreat fo much celebrated in history. All these marches, one with the other, were ‡ fix parasanga's, that is to say, more than six of our leagues. The usual marches of our armies are far from being so long; and it is not easy to comprehend how the antients made them so. Their measures have varied very much, which perhaps is the reason of this difference between their day's march and ours.

Non fecus ac patriis acer Romanus in armis Injusto sub fasce viam cum carpit, & hosti Ante expectatum positis stat in agmine castris.

Virg. Georg. 1. 3.

As when the warlike Roman under arms,
Charg'd with a baggage of unequal weight,
Purfues his march, and unexpected flands
Pitching his fudden tent before the foe.

Trap.

† Militari gradu viginti millia paffuum horis duntaxat quinque æftivis conficienda funt. Veget. l. 1. c. 9.

† The Parasanga was a Persian measure of the ways. The least consisted of thirty stadia, each stadium of a hundred and twenty-sive geometrical paces.

The

The conful, and even the dictator, marched at the head of the legions on foot, because the greatest force of the Romans confifting in the infantry, they believed it necessary for the general to remain always at the head of the battalions. But, as age or infirmity might disable the dictator to support that fatigue, * before he fet out for the army, he applied to the people, to demand a dispensation from observing that law established by antient custom, and permission to ride on horseback. + Suetonius represents Julius Cæsar as indefatigable, marching at the head of his armies, sometimes on horseback, but generally on foot, and bareheaded, however the fun shined, or how hard foever it rained. I Pliny praises Trajan, for having accustomed himself early to march on foot at the head of the legions under his command, without ever using either chariot or horse, though he had immense countries to traverse; and he always did the same after he became emperor. Cæsar, of whom I spoke just before, either swam or forded rivers. It was in order to be able to do the fame, and to support all the fatigues of war, that the young Romans exercised themselves in horse and foot races, and, all covered with sweat after such violent exercises, threw themselves into the Tyber, and fwam over it. Care was taken to form those for feveral years that were to recruit the legions, and had not served before. For this purpose they made choice of the most healthy, the most active, and the most robust. They were exer-

^{*} Dictator tulit ad populum, ut equum ascendere liceret. Liv. 1. 23. n. 14.

⁺ Laboris ultra fidem patiens erat: in agmine nonnunquam equo, sæpius pedibus anteibat, capite detecto seu sol seu imber esset. Sueton. in Jul. Cas.

[†] Per hoc omne spatium cum legiones duceres—non vehiculum unquam, non equum respexisti. Plin. in Trajan.

cifed by fatigues, marches, and toils, which were gradually increased; and such as experience shewed to be unequal to this discipline were dismissed, and only tried foldiers retained, who formed a body of chosen troops.

It was this manly, hardy, and robust education, which at Rome, and long before at Sparta, and in Persia, in the time of Cyrus, made the soldiery

indefatigable and invincible.

SECT. III.

Construction and fortification of the camp.

Suppose the army upon a march. Though it were still in the territory of Rome, and had only one night to pass in a place, it incamped in all the forms, with no other difference, than that the camp was less fortified there perhaps than in the enemy's country. From thence comes this manner of speaking so usual in Latin authors, primis castris, secundis castris, &c. at the first camp, at the second camp: to signify the first or second day's march; because, however short their stay was to be in a place, they never failed to form Liv. 1. 37. a camp in it. They called it stativa, when they were to stay several days in it: ibi plures dies stativa

babuit.

This exactness of the Romans in their own country sufficiently intimates their strictness when in fight of, or near, the enemy. It was a law amongst them, established by long custom, never to hazard a battle, till they had finished their camp. We have feen Paulus Emilius spend and arrest the ardour of his whole army to attack Perseus, for no other reason, but because they had not formed their

their camp. * In the war with the Gauls, the commanders of the Roman army were reproached with having omitted this wife precaution, and the loss of the battle of Allia was partly attributed to it. The fuccess of arms being uncertain, the Romans wisely took care to secure themselves a retreat in case of the worst. The fortisted camp put a stop to the enemy's victory, received the troops that retired in safety, inabled them to renew the battle with more success, and prevented their being entirely routed; whereas, without the resuge of a camp, an army, though composed of good troops, was exposed to a final defeat, and to being inevitably cut to pieces.

The camp was of a square form, contrary to the custom of the Greeks, who made theirs round. † The citizens and allies divided the work equally between them. If the enemy were near, part of the troops continued under arms, whilft the rest were employed in throwing up the intrenchments. They began by digging trenches of greater or less depth, according to the occasion. They were at least eight feet broad by six deep: but they were often twelve feet in breadth, and sometimes more, to fifteen or twenty. Of the earth dug out of the fosse, and thrown up on the side of the camp, they formed the parapet or breast-work, and, to make it the firmer, they mingled it with turf cut in a certain fize and form. Upon the brow of this parapet the palifadoes were planted. I shall re-

peat

^{*} Ibi Tribuni militum non loco castris ante capto, non præmunito vallo quò receptus esset --- instruunt aciem. Liv. l. 5.

n. 37. † Trifariam Romani muniebant, alius exercitus przelio intentus stabat. Liv.

Cæsar—singula latera castrorum singulis attribuit legionibus munienda, sossamue ad eandem magnitudinem præsici jubet; reliquas legiones in armis expeditas contra hostem constituit. Cæs. de bell. civil. 1. 1.

peat all that Polybius remarks upon these stakes, with which the intrenchment of the camp was strengthened, though I have already done it elsewhere, because this is the proper place for it. He speaks of them, upon the occasion of the order given by Q. Flaminius to his troops, to cut stakes against the time they should have occasion to use them.

Polyb. 1. 17. p. 754, 755.

This custom, says Polybius, which is easy to put in practice amongst the Romans, passes for impossible with the Greeks. They can hardly support their own weight upon their marches: whilft the Romans, notwithstanding the buckler which hangs at their shoulders, and the javeling which they carry in their hands, load themselves also with stakes or palisadoes, which are very different from those of the Greeks. With the latter, those are best which have many strong branches about the trunk. The Romans, on the contrary, leave only three or four at most upon it, and that only on one fide. In this manner a man can carry two or three bound together, and much more use may be made of them. Those of the Greeks are more eafily pulled up. If the stake be fixed by itself, as its branches are strong, and in great number, two or three foldiers will eafily pull it away; and thereby an opening is made for the enemy, without reckoning that the neighbouring stakes will be loofened, because their branches are too fhort to be interwoven with each other. But this is not the case with the Romans. The branches of their palifadoes are so strongly inserted into each other, that it is hard to diffinguish the stake they belong to. And it is as little practicable to thrust the hand through these branches to pull up the palisadoes, because, being well fastened and twisted together, they leave no opening, and are carefully **fharpened**

sharpened at their ends. Even though they could be taken hold of, it would not be easy to pull them out of the ground, and that for two reasons. The first is, because they are driven in so deep, that they cannot be moved; and the second, because their branches are interwoven with each other in fuch a manner, that one cannot be stirred without several more. Two or three men might unite their strength in vain to draw one of them out, which, however, if they effected by drawing it a great while to and fro till it was loofe, the opening it would leave would be almost imperceptible. These stakes, therefore, have three advantages. They are every-where to be had; they are easy to carry; and are a fecure barrier to a camp, because very difficult to break through. In my opinion (fays Polybius, in the conclusion he deduces from all he fays) there is nothing, practifed by the Romans in war, more worthy of being imitated.

The form, dimension, and distribution of the Polybdifferent parts of the camp were always the same;
so that the Romans knew immediately where their
tents were to be pitched. The Greeks differed
from them in this. When they were to incamp,
they always chose the place that was strongest
by its situation, as well to spare themselves the
trouble of running a trench round their camp,
as because they were convinced, that the fortisications of nature were far more secure than those
of art. From thence arose the necessity of giving
their camps all sorts of forms, according to the
nature of places, and to vary the different forms
of them; which occasioned such a consusion, as
made it difficult for the soldier to know exactly
either his own quarters, or that of his corps.

The

The form and distribution of the Roman camp admits of great difficulties, and has occasioned great disputes amongst the learned. I shall repeat in this place what Polybius has said upon this head, and shall endeavour to explain him in some places, and to supply what he has omitted in others.

Polyb. 1. 6. P- 473,

He speaks of a consular army, which, in his time, consisted, in the first place, of two Roman legions, each containing four thousand two hundred foot, and three hundred horse; and, in the second, of the troops of the allies, a like number of infantry, and generally double the number of cavalry, which made, in all, Romans and allies, eighteen thousand six hundred men. For the better conceiving the disposition of this camp, we should remember what has been said above upon the different parts into which the Roman legion was divided.

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Military affecting the spirit many

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thought generality, and had been been been self

SECT. IV.

Disposition of the Roman * camp according to Polybius.

FTER the place for the camp is marked out, says Polybius, which is always chosen for its convenience in respect to water and forage. a part of it is allotted for the general's tent, which I shall otherwise call the prætorium, upon an higher ground than the rest, from whence he may fee with the greater ease all that passes, and dispatch the necessary orders (1.). A slag was generally planted on the ground where this tent was to be pitched, round which a square space was marked out in fuch a manner, that the four fides were an hundred feet distant from the slag, and the ground occupied by the conful about four acres. Near his tent were erected the altar, on which facrifices were offered, and the tribunal for dispensing justice.

The consul commands two legions, of which each has six tribunes, which make twelve in all. Their tents are placed in a right line parallel to the front of the Prætorium, at the distance of sifty feet. In this space of sifty feet are the horses, beasts of burden, and the whole equipage of the tribunes. Their tents are pitched in such a manner, that they have the Prætorium in the rear, and in the front all the rest of the camp. The tents of the tribunes, at equal distances from each other,

At the end of this section the reader will find a print of the Re-

take up the whole breadth of the ground, upon

which the legions are incamped (2.)

Between the tents of the legions and tribunes, a space of an hundred feet in breadth parallel to those of the tribunes is lest, which forms a street, called *Principia*, equal in length to the breadth of the camp, which divides the whole camp into the up-

per and lower parts (3.)

Beyond this street were placed the tents of the legions. The space which they occupy is divided in the midst into two equal parts by a street of sifty feet broad, which extended the whole length of the camp. On each side on the same line were the quarters of the horse, the Triarii, the Principes, and Hastarii. Between the Triarii and the Principes, there is on both sides a street of the same breadth with that in the middle, which, as well as the latter, runs the whole length of this space. It is also cut by a cross-street called the sifth, Quintona, because it opened beyond the sifth maniple.

As each of the four bodies, I have just named, was divided into ten parts; the cavalry into ten companies, Turmas, each of thirty men; the three other bodies into ten maniples, of an hundred and twenty each, except those of the Triarii, which consisted of only half that number; the quarters of the horse, Triarii, Principes, and Hastarii, were severally divided, each into ten squares, along the space assigned the legions as above described. Each of these squares was an hundred feet every way, except those of the Triarii, which were only sifty feet square, upon account of their smaller number, which we have already men-

tioned.

The tents, whether of the cavalry or infantry, are disposed in the same manner, with their fronts towards the streets.

The

The cavalry of the two legions are first quartered facing each other, and separated by a space of fifty seet, which is the breadth of the street in the middle. This cavalry making only six hundred men, each square contained thirty horse on each side (4), which are the tenth part of three hundred. On the side of the cavalry, the Triarii are quartered, a maniple behind a troop of horse, both in the same form. They join as to the ground, but the Triarii turn their backs upon the horse, and here each maniple is only half as broad as long, because the Triarii are less in number than the other kind of troops (5.)

At fifty feet distance and fronting the Triarii, a space which forms a street on each side in length, the Principes are placed along the side of the in-

terval (6.)

Behind the Principes the Hastarii were quartered, joining as to the ground, but fronting the different

way (7.)

Thus far we have described the quarters of the two Roman legions, that formed the consul's army, and consisted of eight thousand four hundred foot, and six hundred horse. It remains for us to dispose of the allies. Their infantry were equal to that of the Romans, and their cavalry twice their number. In removing, for the extraordinaries or *Evocati*, the sisth part of the infantry; that is to say, sixteen hundred foot, and a third of the cavalry, or four hundred men; there remained in the whole seven thousand sive hundred and twenty men, horse and foot, to quarter.

At fifty feet distance, and facing the Roman Hastarii, a space which formed a new street on each side, the cavalry of the allies incamp (8), upon a breadth of an hundred and thirty-three feet.

and fomething more.

Behind

4.1.18

Behind that cavalry, and on the fame line, incamp their infantry upon a breadth of two hundred

feet (9).

At the head of every maniple, on each fide, are the tents of the centurions. The same, no doubt, should be said of the tents of the captains of the horse, though Polybius does not mention them. Part of the remaining space behind the tents of the tribunes, and on the two sides of the Prætorium or consul's tent, was employed for a market (10), and the rest for the quæstor, the treasury, and the

ammunition (11).

Upon the right and left, on the sides, and beyond the last tent of the tribunes, facing the Prætorium on a right line, were the quarters of the extraordinary * cavalry, Evocatorum (12—14); and of the other voluntier horse, Selectorum (13—15). All this cavalry faced, on one side, towards the place of the quæstor, and, on the other, towards the market. It did not only incamp near the consul's person, but often attended him upon marches; in a word, it was generally at hand to execute the orders of the consul and quæstor.

The Roman infantry, extraordinary and voluntiers, are in the rear of the horse last spoken of, and upon the same line (16), and do the same ser-

vice for the conful and quæstor.

Above this horse and foot is a street an hundred feet broad, which runs the whole breadth of the camp.

On the other fide of this space are the quarters of the extraordinary foot of the allies facing the

market,

^{*} These two corps were horse, either chosen by the consuls themselves, or such as voluntarily attended them. This gave birth to the Pratorian coborts, or bands under the emperors. The Selecti or Ablecti. whether borse or foot, were drawn out of the allies. The Evocati were voluntiers, old soldiers, either citizens or allies.

market, the Prætorium, and the treasury, or place

of the quæstor (17).

The extraordinary foot of the allies were incamped behind their horse, and faced the intrenchment and the extremity of the camp (18).

The void spaces that remained on both sides were allotted to strangers and allies, who came later

than the rest (19).

All things thus disposed, we see the camp forms a square, and that, as well by the distribution of the streets, as the whole disposition, it very much resembles a city. And this was the soldiers idea of it, who considered the camp as their country, and the tents as their houses.

These tents were generally made of skins; from whence came the expression, much used by authors, sub pellibus babitare. The soldiers joined together in messes, which they called Contubernia. These generally consisted of eight or ten men.

From the intrenchment to the tents is a space of two hundred feet; and that interval is of very great use, either for the entrance or departure of the legions. For each body of troops advances into that space by the street before him. fo that the troops, not marching in the fame way, were not in danger of crowding and breaking each other's ranks. Besides which, the cattle, and whatever is taken from the enemy, is placed there, where a guard is kept during the night. Another confiderable advantage of it is, that, in attacks by night, neither fire nor dart can be thrown to them; or, if that happens, it is very feldom, and can do no great execution, the foldiers being at fo great a distance, and under the cover of their tents. If the camp of Syphax and Asdrubal in Africa had been inclosed within

Liv. 1. 27.

n. 46.

C. 27.

so great a space, Scipio had never been able to

have burnt it in one night.

By the exact calculation of the camp, as Polybius describes it, each front contained 2016 feet, which make 672 yards; so that the whole superficies of the camp was 4,064,256 feet, or 225,792

square yards.

When the number of troops was greater, the measure and extent of the camp was augmented, without changing its form. When the conful Livius Salinator received his collegue Nero into his camp, the extent of the camp was not enlarged; the troops were only made to take up less ground, because those of Nero were not to stay long; which was what deceived Afdrubal. Castra nibil austa errorem faciebant.

Polybius does not tell us, where the lieutenants, Legati, who held the first rank after the conful, or the prætors and other officers, incamped. It is very likely, that they were not far from the conful, with whom they had a continual intercourse as well

as the tribunes.

Nor is he more express upon the gates of the Liv. 1. 40. camp, which were four according to Livy: Ad quatuor portas exercitum instruxit, ut, signo dato, ex omnibus partibus eruptionem facerent. He afterwards calls them the Extraordinary, the Right principal, the Left principal, and the Quastorian. They have also other names, about which it is not a little difficult to reconcile authors. It is believed that the Extraordinary gate was called fo, because near the place where the extraordinary troops incamped; and that it was the same as the Prætorian, which took its name from its nearness to the Prætorium. The gate opposite to this, at the other extremity of the camp, was called porte Decumana, because near the ten maniples of each legion; gion; and very probably is the fame with the Questorian, mentioned by Livy, in the place above cited. I shall not expatiate any farther upon these gates, which would require long differtations.

But we cannot fufficiently admire the order, disposition, and symmetry of all the parts of the Roman camp, which resembles rather a city than a camp: the tent of the general, placed on an eminence, in the midst of the altars and statues of the gods, which feemed to render the Divinity present amongst them; and surrounded on all fides with the principal officers, always ready to receive and execute his orders. Four great streets, which lead to the four gates of the camp, with abundance of other streets on each side of them, all parallel to each other. An infinity of tents, placed in a line at equal distances, and with perfect fymmetry. And this camp so vast and extensive, and so diversified in its parts, which feemed to have cost infinite time and pains, was often the work of an hour or two, as if it had rose of itself out of the earth. All this, however, is nothing in comparison with what, in a manner, constitutes the foul of the camp: I mean the wisdom of command, the attention and vigilance of the general, the perfect submission of the subaltern officers, the entire obedience of the foldiers to the orders of their chiefs, and the military discipline, observed with unexampled strictness and severity: qualities which ranked the Roman people above all nations, and at length made them their masters. The Roman manner of incamping must have been very excellent and perfect, as they observed it inviolably for fo many ages, and with fo great success, and there is almost no example of their camp's being forced by their enemies.

This

This custom of fortifying camps regularly, which the Romans considered as one of the most effential parts of military knowledge and discipline, has been disused by the moderns. The number of troops, of which armies are now composed, and that occupies a considerable extent of ground, feems to render this work impracticable, which would become infinite. The people of Asia, whose armies were far more numerous than ours, never failed to inclose their camp, at least with very deep trenches, though they staid only a day or a night; and often fortified it with good palifadoes. Xenophon observes, that it was the great number of their troops itself, that rendered

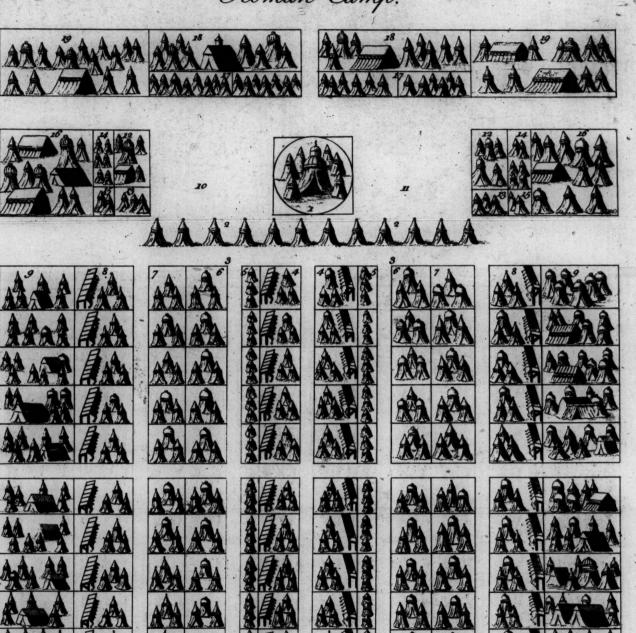
this practice easy.

It is agreed, that no people ever carried the knowledge and practice of the art of war to an higher degree of perfection than the Romans: but it must be confessed, that their principal excellency lay in the art of incamping, and in drawing up armies in battle array. And this is what Polybius admires most in it, who was a good judge of military affairs, and had been long a witness of the excellent discipline observed amongst the Roman troops. When Philip, the father of Perseus, and before him Pyrrhus, prejudiced by their efteem for the Greeks, and full of contempt for all other nations, whom they treated as Barbarians, faw, for the first time, the distribution and order of the Roman camp, they cried out with surprise and admiration: Sure that cannot be the disposition of Barbarians!

But what ought to surprise us most, and what it is even difficult to conceive, so remote are our manners from it, is this character of a people inured to the rudest toils, and invincible to the severest fatigues. We see here the effects of a good forced by their enci-

1. 2. p. 80.

Xenoph. in Cyrop. Roman Camp.



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good education, and wholfome habits contracted from the most early youth. Most of these soldiers, though Roman citizens, had estates, and cultivated their inheritances with their own hands. In times of peace they exercised themselves in the most painful labours. Their hands, accustomed daily to wield the spade, turn up the land, and guide an heavy plow, only changed exercises, and even found rest in those imposed upon them by the military discipline; as the Spartans are said never to have been more at their ease than in the army and camp, so hard and austere was their manner of living at all other times.

Who could believe, that there was nothing, even to cleanliness, of which particular care was not taken in the Roman camp! As the great street, situated in the front of the Prætorium, was much frequented by the officers and soldiers, who passed through it to receive and carry orders, and upon their other occasions, and thereby exposed to much dirt; a number of soldiers were appointed to sweep and clean it every day in winter, and to water it

recommendation of the about five labeled of the lab

in summer to prevent the dust.

THIS

Vol. I. Bb SECT.

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Employments and exercises of the Roman soldiers and officers in their camp.

guide an heavy plow, only changed exercises, and

THE camp being prepared in the manner we have described, the tribunes assemble to take the oath of all the men in the legions, as well free as slaves. All swear in their turn; and their oath consists in a promise not to steal any thing in the camp, and to bring whatever they should find in it to the tribunes.

The foldiers had before taken a like oath, at the time they were lifted: I deferred repeating it till now, that, being joined with the other, its force might be the better conceived. By this first oath Anl. Gell. 36 the foldier engages to steal nothing alone or in 1.16. c. 4. 46 concert with others, either in the army or with-

" in ten thousand paces of it; and to carry to the "consul, or to restore to its lawful owner, what " ever he may find exceeding the value of one sessions, that is to say, about five farthings, excepting certain things mentioned in the oath." What is said here of ten thousand paces from the

army does not mean, that the foldiers were allowed to fleal beyond that diffance: but whatever they found without those bounds they were not obliged to carry to the consul. Amongst things excepted, was the fruit of a tree, pomum. Marcus Scaurus tells us, however, as a memorable

example of the Roman abstinence, that, a fruit-tree happening to grow within the inclosure of the camp, when the army quitted it the next day, nobody had touched it. Scaurus commanded the

army at that time.

Frontin. Stratag.

This

This oath shews, how far the Romans carried their attention and exactness in preventing all rapine and violence in the army, because theft is not only prohibited the foldiery, upon pain of the most indispensable severities; but they are not even permitted to appropriate what they find on their way, and chance presents them. Hence the laws actually treat, as theft, the retaining any thing of another's after having found it, whether the owner were known or not: Qui alienum jacens lucri fa- Sabin. ex eiendi causa sustulit, furti obstringitur, sive scit cujus lib. Jur.

fit, five nescit.

b. I have faid, that theft was prohibited with inexorable feverity. There is a very terrible example Spartian. of this under the emperors. A foldier had stole a in Pescene. fowl from a peasant, and had eat it with nine other men in his mess. The emperor Pescennius Niger condemned them all to die, and only spared their lives at the earnest request of the whole army, obliging each of them to give the countryman ten fowls, and fixing a mark of public infamy upon them during the rest of the war. How many crimes is fo wholfome a rigour capable of preventing! What a fight is a camp under fuch regulations! But what a vast difference is there between soldiers obedient to fuch a discipline in the midst of Paganism, and our marauders, who call themselves Christians, and fear neither God nor man! The inclosure of the camp was a good barrier against disorder and license; and we shall soon see, that, even upon marches, severity of discipline had no less effect than lines and intrenchments.

A wonderful order was observed night and day throughout the whole camp, in respect to the watch word, centinels, and guards; and it was in this its fecurity and quiet confisted. To render the guard more regular and less fatiguing, the B b 2 night

OF THE ART MILITARY.

night was divided into four parts or watches, and the day into four stations. Every one had his duty fixed, both in regard to time and place; and in the camp all things were regulated and disposed,

as in a well-ordered family.

I have already spoken elsewhere of the simplicity of the antients in regard to their provisions and equipage. The fecond Scipio Africanus would not suffer a soldier to have any more than a kettle, a spit, and a wooden bowl. * Epaminondas, the glorious Theban general, had only this furniture both for the field and city. The antient generals of Rome were not more magnificent. They did not know + what filver plate was in the army; and had only a bowl and a faltcellar of that metal for facrifices. The horfes glittered also with filver ornaments. The hours of dining and supping were made known by a certain fignal. We have observed, that most of the Roman emperors eat in public, and often in the open air. It has been remarked, † that Pescennius made no use of coverings against the rain. The meals of these emperors, as well as of the antient generals, of whom Valerius Maximus speaks, were such as might be eaten in public without any referve! the meats of which they consisted had nothing

I Idem in omni expeditione, ante omnes militarem cibum fumpfit nec sibi unquam, vel contra imbres, quæsivit tecti suffragium.

^{*} Epaminoudas, Dux Thebanorum tantæ abstinentiæ suit, ut in supellectili ejus, præter ahenum & veru unicum, nihil inveniretur. Frontin. Stratag. 1. 4. c. 3.

† Præter equos virosque & si quid argenti, quod plurimum in phaleris equorum, (nam ad vescendum facto perexiguo, utique militantes, utebantur) omnis cetera præda diripienda militi data est Liv. 1. 22. n. 52.

^{||} Fuit illa simplicitas antiquorum in cibo capiendo, humanitatis fimul & continentiæ certissima index. Nam maximis viris prandere & conare in projatulo, verecundiæ non erat. Nec sanè ullas epulas habebant, quas oculis populi subjicere erubescerent. Val. Max. 1. 2. S. 5.

in them, that it was necessary to conceal from the eyes of the foldiers, who saw with joy and admiration, that their masters were no better fed than themselves.

What was most admirable, in the Roman difcipline, was the continual exercise to which the troops were kept, either within or without the camp; fo that they were never idle, and * had scarce any respite from duty. The new-raised soldiers performed their exercise regularly twice a day, and the old ones once! They were + formed to all the evolutions, and other parts of the art military. They were obliged to keep I their arms always clean and bright. They were made to take hafty marches of a confiderable length, laden with their arms, and feveral palifadoes; and that often in steep and craggy countries. They were habituated always to keep their ranks, even in the midst of disorder and confusion, and never to lofe fight of their standards. They were made to charge each other in mock battles, of which the officers, generals, and even the conful himfelf were witnesses, and in which they thought it for their glory to share in person. When they had no enemy in the field, the troops were employed in confiderable works, as well to keep them in exercise, as for the public utility. Such in particular are the highways, called for that rea-

^{*} Opere faciendo milites se circumspiciendi non habebant facultatem. Hirt. in bell. Afric.

[†] Ibi quia otiosa castra erant, crebro decurrere milites cogebat (Sempronius) ut tyrones assuescerent signa sequi, & in acie cognoscere ordines suos. Liv. 1. 23. n. 35.

Primo die legiones in armis quatuor millium spatio decurrerent. Secundo die arma curare & tergere ante tentoria justit (Scipio Africanus.) Tertio die sudibus inter se in modum justæ pugnæ concurrerent, præpilatisque missilibus jaculati sunt. Liv. 1. 26. n. 51.

¹ Acuere alii gladios; alii galeas buculasque, scuta alii, loricasque tergere. Liv. l. 44. n. 34.

fon via militares, which are the fruits of this wife and falutary custom: Stratum militari labore iter. Quint. 1. 2. C. 14. sie a sellem ned ich meterin

We may judge whether, amidst these exercifes, which were almost continual, the troops could find time for those unworthy diversions. equally pernicious in the loss of time and money. This itch, this phrenzy for gaming, which to the shame of our times has forced the intrenchments of the camp, and abolished the laws of military discipline, had been regarded by the antients as the most finister of omens, and the most terrible of prodigies. begilde a sweet . wishlim



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